SAFETY Education

DECEMBER, 1960

Two Sections • Section One

A MAGAZINE FOR TEACHERS AND ADMINISTRATORS

Congress Reception Honors

Norman Borgerson

Prominent safety and driver educators comprising the Ætna Drivotrainer Curriculum Advisory Committee meet regularly to guide Ætna Casualty specialists in developing new films and other teaching aids for the Drivotrainer System.

A committee member emphasizes a point during 1960 meeting.

EXPERTS STEER ÆTNA DRIVOTRAINER SYSTEM

The Ætna Drivotrainer Curriculum Advisory Committee may be the one exception to the familiar adage "too many cooks spoil the broth." The combination of wide and varied classroom experience, thorough knowledge of the subject and familiarity with the practices and problems in diverse parts of the country, enables this team of leading educators to blend a sound educational recipe which must satisfy the inquiring appetites of thousands of tomorrow's drivers.

This year, for instance, the Committee recommended the production of two new films and the revision of a third. New films on defensive driving and meeting emergencies as well as an advanced film on driving in heavy, urban traffic were suggested by the group because of their importance to safe driving and the Drivotrainer System's many advantages over other training methods in these particular areas. The committee further recommended adding several new sequences to the existing expressway driving film to meet the increasing need for instruction in the special techniques required in this type of driving.

Continual development of this fast-growing driver education program is increasing the effectiveness of Drivotrainer classrooms everywhere. The contributions made by the Drivotrainer Curriculum Advisory Committee are among the many reasons why the Ætna Drivotrainer System is now the dominant method of driver instruction in more than 100 high school, college, private and military classrooms throughout the United States.

Development of the Drivotrainer System was financed by the Ætna Casualty and Surety Company as a contribution to education and highway safety. Ætna Casualty has no financial interest in the sale of Drivotrainer equipment but continues its public service support of the program through production of Drivotrainer films and other teaching aids, assisting in teacher training and by supplying an educational liaison service to Drivotrainer users.

Drivotrainer® equipment is manufactured, sold and serviced by the Drivotrainer Division, Rockwell Manufacturing Company, Pittsburgh 8, Pa.

For information on the Ætna Drivotrainer System, write:

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Mail Box

Best ever

Lansing, Mich.—I like everything about SAFETY EDUCATION, but I wanted you to know that I think your editorial in the September issue is your very best yet.

As an idea it's as timely as a hamburger to a hungry boy, and you did a beautiful job developing the idea. Congratulations!

Lewis E. Clark
Lansing Public Schools

Likes tall tales

Austin, Tex.—I have just read your excellent article in the September issue entitled "Tall Tales in Texas."

Thank you for devoting so much time and space to our efforts here in Texas to take traffic safety into the public schools. I am pleased to know that these efforts were deserving of such recognition from your fine publication.

Price Daniel
Governor

Austin, Tex.—Please accept my sincerest thanks for the very fine story, "Tall Tales in Texas," in your September issue.

I was impressed especially with the exactness of your description of our program for extending the study of traffic safety into our public schools under the guidance of Governor Price Daniel and with the accuracy of detail with which you outlined the project.

This is, of course, typical of your fine publication. This is the outstanding characteristic of SAFETY EDUCATION, one which makes it possible for all of us to adapt the ideas of others, thus described in your stories, to our special needs and requirements.

Brad H. Smith
Governor's Highway Safety Commission

More safety courses

Mount Pleasant, Mich.—I wish to call to your attention that the listing of 1960 college safety education credit courses (September) fails to list such courses at Central Michigan University. May I list them for you so that they might be included in any future publication:

1. First Aid and Safety Education (Ed. 209); Basic; 2 hours credit; undergraduate; fall and spring.
2. Safety Education (Ed. 529); Basic; 2 hours credit; graduate; summer.
3. Traffic Education and Traffic Safety (Ed. 411); Basic; 2 hours credit; graduate and undergraduate; fall, spring and summer.
4. Traffic Education and Traffic Safety (Ed. 413); Advanced; 2 hours credit; graduate or undergraduate; summer.

William E. Jakad
Central Michigan University

Judge book by cover?

Providence, R. I.—At an exhibit on safety prepared by our State Board of Health for the Catholic Teachers' Institute, your October issue was given much prominence. The nurse who was hostess at the booth spoke glowingly of the publication and gave me a copy so that I could study it, hoping that our department would subscribe and that our nurses could urge the individual schools to subscribe.

I was shocked by the picture on the cover. We have always taught children to put nothing but what is to be consumed, the silver used in eating and their toothbrushes in their mouths. Suppose someone came along and hit this little boy on his head; the pencil could then easily puncture the roof of his mouth and how about germs?

I have had little time to read the contents but glancing through it I would say that it is an excellent teaching aid.

Sarah S. Nagle, R.N.
City Department of Health

Grid article scores

Chicago, Ill.—We have just completed reading the article "Pass It On" which was included in the October issue. We think it is excellent and we are certain it will be a real contribution to the safety of athletics and particularly to football, both in junior and senior high schools. We are especially impressed with the clear-cut approach to the problem and the realistic and reasonable way in which it was presented.

C. B. Fagan
National Federation
of State High School Athletic Associations

Honor roll error

Evansville, Ind.—The schools from Evansville, Ind., were listed under the state of Illinois on the National School Safety Honor Roll in the October issue and also some of the schools were listed under Elkhart, Ind., instead of Evansville, Ind.

James W. Graham
Evansville School Corporation

Correction: The listing should have read:

ELKHART	
6 Beardsley	5 Fairlawn
6 Hawthorne	6 F. J. Reitz High
3 J. L. Ullery	6 Fulton
6 Lincoln	6 Glenwood Elem.
2 M. F. Beck	6 Harper
6 M. L. Daly	3 Hebron
6 Middlebury St.	6 H. Reis Elem.
6 Monger Elem.	3 Highland
6 Rice	1 H. Roosa
3 Riverview	6 J. M. Culver
7 Roosevelt Elem.	5 Lodge
6 S. Strong	7 L. McCutchanville
6 Weston Elem.	Oak Hill
6 Willowdale	1 N. High
EVANSVILLE	3 Plaza Park
5 Baker Ave. Elem.	3 Perry Hgts.
6 B. Bosse High	2 Scott Twp.
2 Caze	6 Stanley Hall
6 Cedar Hall	3 Springtown
4 Centennial	7 Vogel
6 Central High	8 Washington
5 Chestnut-Walnut	4 W. Hgts.
6 D. Wertz	3 W. Terr.
7 Dexter	6 Wheeler Elem.
	2 White

Play on fire escapes

University Park, Pa.—I was quite interested in the reaction of Alfred L. Moseley, in the article "Should children play on fire escapes," (October).

I feel the one point he missed in his presentation that the other forum members did include was the interpretation of the word "play." Playing to most children is running, jumping, swinging, etc., and we in the safety field would certainly take a long look at this, knowing the consequences which could result from children being permitted to "play" on fire escapes.

Howard O. Triebold, Jr.
The Pennsylvania State University

by Randolph W. Webster

Special Projects for Teacher Training

WHAT kinds of special projects can prospective teachers of safety education profitably participate in? What role do these projects play in the teachers' total preparation?

The teacher training program in safety education must be based upon a definite and sound philosophy of education. Employing the positive approach in teaching is highly recommended, with the negative approach used sparingly or only as a last resort. Disseminating information, creating good attitudes, establishing proper habits and skills should be specific objectives of this philosophy. We believe that the application of safety principles and the presentation of materials cannot be done through integration alone. Special units, special projects and separate courses should be used. A sound philosophy composed of definite principles and objectives can best be presented and obtained in a separate class of safety education.

The apparent need for experts in all fields of safety is evident from the high accident rates in *Accident Facts*, published by the National Safety Council. To supply more qualified personnel there must be better professional curriculums in our educational institutions today. Legal requirements for teacher training in all states would assist in strengthening the quality of teacher preparation and encourage more students to become safety education teachers. It is doubtful whether adequate preparation can be encouraged and secured without proper legislation. Colleges must also prepare persons who are research minded if solutions are to be found to the many problems in safety. The scope of professional preparation includes both in-service and pre-service training. This article will deal with one phase of pre-service training —special projects.

Techniques, such as, demonstrations, surveys, skits, panels, assembly programs, television and radio programs will tend to emphasize the functional approach to the subject matter in safety education and not so much the instruction about safety and the mere accumulation of facts. An important objective of a teacher training program is to develop effective abilities and efficient techniques in teaching safety. The use of special projects in teacher preparation is an excellent way of carrying out the idea of a functional approach as well as developing effective abilities. Some special projects which have proved helpful to prospective teachers will be discussed at length.

Radio Skit: Safety on the Playground

Members of a general safety education class were given the opportunity to do a project of their choosing. Since the course was offered in the spring and all students in one committee were graduate majors in physical education and recreation, it was quite natural for them to select safety on the playground. The project was to show how safety could be incorporated in planning a summer recreation program for a small urban community. A radio skit was planned covering bicycle safety, safety in games, sports, apparatus and equipment. The script, written by the committee members, was a story about a father very much concerned about his son's safety on the playground. They visited the principal's office one morning to talk with him about the program. The principal invited them to tour the playground with him to see the activities, meet the various supervisors and

Randolph Webster is a professor in the Department of Intercollegiate Athletics, Michigan State University, East Lansing, Mich.

leaders and have them explain the many safety measures and features of their program. After the script was prepared and all parts were rehearsed, arrangements were made with the university radio station for a date and time of broadcast.

Safety Program for a Junior High School

Another committee chose to build a safety program for a junior high school in their home town. The school, located on a busy highway across the street from an industrial plant, had an enrollment of 1,400, 65 teachers and 3 principals. The committee's plans included administrative philosophy, records and reports, safety budget, program planning, liability and insurance, methods of promoting safety and evaluation of the safety program. Safety measures were developed for: football, track, basketball, transportation, driver education, shop, school camping, rifle shooting, swimming, outdoor education, gymnasium and locker-rooms.

Survey of Safety Needs in an Intramural Sports Program

One committee decided to survey the safety needs in their school's intramural sports program. The purpose of the study was to determine the status quo of the safety measures practiced in the intramural sports program, to suggest improvements and to promote a philosophy of sport safety in the department. Data was collected by inspecting the building, playfields and equipment, by observing the activities and by holding conferences and interviews with the intramural staff. Rules and policies of the intramural program were analyzed and evaluated. From these discussions and observations, the committee members compiled the final suggestions and recommendations for improving the safety in the intramural sports program.

TV Socio-drama: Safety in Outdoor Education

Another committee produced a socio-drama, entitled "Safety in Outdoor Education," on the university's television station. The production was both "live" and on film. The project called for committee cooperation between two groups of people: television and safety education personnel. The television personnel supervised the production and directed the performance. Because of their knowledge and experience with conveying messages to audiences, they established the sequence of events and coordinated dialogue with the television picture. To maintain realism, certain portions of the production remained relatively unstructured and followed the natural order of events as they were likely to occur in the classroom. The safety personnel was concerned with examining and including safety principles and objectives into the program.

In this project the following concepts were stressed: group planning and working together in safety education on a topic of interest by members of the committee; family planning for outdoor activities; planning safety procedures for a day's canoe trip including canoeing, hiking, fishing and building a picnic fire. The title, "Safety in Outdoor Education," was chosen. Other phases of this production were: arranging for television personnel and telecast time, planning the events, selecting site for filming outdoor activities, writing the script, obtaining property items and food for the canoe trip on the river, filming the trip, editing the films, rehearsing the complete program, both film and live, in the studio and finally, presenting the program at telecast time.

Planning Safety Measures for Large Group Events

One committee decided to set up a program of safety measures for large group events to lessen the danger of accidents and injuries. Large group events are activities held after school hours for not only students but in many cases the public as well, such as: all university dances, commencement exercises, concerts, special days, basketball games, football games and pep rallies. This project seemed a very good one because they felt little had been done on their campus to insure the safety of the large number of spectators and participants attending these events. The committee selected a varsity basketball game to develop these safety items: traffic safety, both automobile and pedestrian, fire, discipline of the crowd, building inspection, ticket distribution, first aid stations, public address system and announcers, ushers and inspection of concession stands. Then the committee set up a planning session for the college officials and worked out the duties and responsibilities for all the personnel involved; fire marshall, maintenance foreman, traffic police, ticket manager, concessions manager, usher manager, public address announcer and first aid supervisor.

It is hoped that this discourse may convey some helpful suggestions and encouragement for others to use special projects in emphasizing the functional approach to teaching safety education●

by Alma O. Finigan

Absent by Accident

THE Chicago Board of Education maintains a program of hospital and home instruction for children of school age who cannot attend regular or special school because of physical disabilities. As a matter of general interest and information, and after attending several National Safety Congresses, we decided to survey the cases the staff had taught in hospitals and homes during a specific period.

The staff was requested to list the number of children they had taught from September, 1957, to May, 1958, who had been accident cases, the type of injuries, cause if known, and any other pertinent information they might have. Thirty-five teachers responded, 25 of them hospital teachers, 10 home teachers. The children reported ranged in age from six to 19 years. Of the total number of 330 cases, 46 were high school students.

Following is a breakdown of this number as to cause of injury:

	Number	*Percentage*
Automobile accidents	93	28.2
Falls	77	23.3
Burns	50	15.2
Injuries received in sports and play (excluding falls)	35	10.6
Gunshot wounds	9	2.7
Miscellaneous	66	20.0

The types of injuries resulting from car accidents were:

Leg	60
Head	17
Arm	3
Pelvis	4
Quadriplegia	1
Paraplegia	1
Back	1
Shoulder	1
Hyperthyroidism	1
Epilepsy	1
Mental retardation	1
Unreported	2

Head injuries were listed as skill fractures or concussions. Undoubtedly, leg injuries were much more numerous because this type of disability would immobilize the victim more than arm injuries and the injured would need special care.

Causes of severe burns ranged from explosion of a gas main to those from hot grease or water. One child suffered facial burns from a firecracker. In several instances much skin grafting had been required for the patient. Some of the gunshot wounds were self inflicted with fractures resulting; one case of an ulcerated heel was listed.

The above study is by no means a complete one. Even this simple study itself might be redone other years, and in other places to find whether the pattern of accidents uncovered was typical.

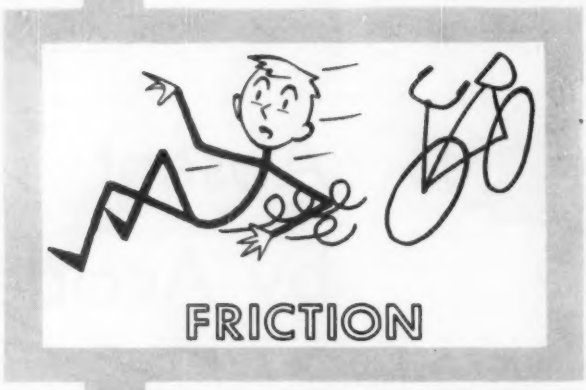
Many questions spring to mind. What proportion of all hospital and home bound cases is caused by accidents? (This question was not treated at all in gathering these data.) What is the cost of accidents in terms of hospital and home bound teaching? How do accident cases compare in length of hospital and home bound instruction with those of other cases? For all Chicago pupils involved in accidents what proportion ends up in hospital and home bound programs? These and many other questions need to be answered.

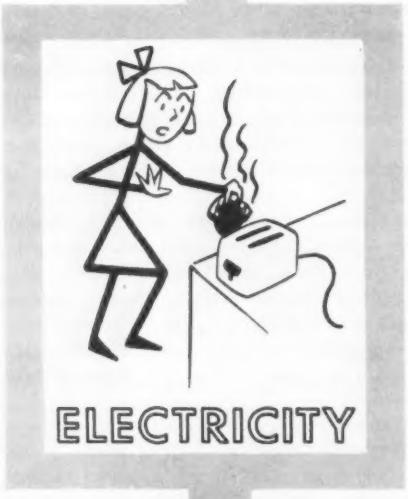
In the meantime there may be a moral from these figures which can be applied at once. The bizarre accident was found infrequently. On the other hand 65 per cent of the cases listed were caused by three major types of accidents: automobiles, falls and burns. Intensive education in the prevention of these three types can pay dividends●

Alma O. Finigan is supervisor, Hospital and Home Teaching Divisions, Chicago Public Schools, Ill.

by Jerome E. Leavitt

Graduate





SCIENCE and safety are more closely related than we sometimes realize. In fact, many science concepts are also safety concepts. In this article, we will take some of these joint concepts and show how they may be illustrated on the primary, intermediate and upper grade levels.

Friction—The phenomenon known as friction occurs when two surfaces rub together. Heat usually results and the surfaces may be burned or otherwise damaged.

A minute examination of any surface will show that it is really quite rough, being made up of "hills and valleys." Friction is caused by bumping and tearing the hills as they slide over each other. Examine a number of different pieces of materials such as rocks, wood and metal. If the "hills and valleys" on these materials are not readily visible to you and the children, view the surface through a microscope.

Friction can be lessened by using wheels, bearings and rollers or by applying a lubricant such as oil. With wheels, bearings and rollers, friction is reduced by changing sliding friction to rolling friction. An oil or other lubricant fills up the "valleys" in the material which, in turn, reduces the bumping and tearing of the hills on one another. If all of the "valleys" on a surface are "filled up," the friction is reduced to a minimum. This is about the situation that you have on an icy sidewalk.

Primary grade children may want to try sliding on plain floors, waxed floors and on the side walk. You can help them to see that the roughness of the floor determines the amount of friction, that is, it regulates the possibility of sliding. This concept can be carried over to the condition of ice on a sidewalk. The reason that

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Your Experiments

people fall down on ice is obvious. Also the reason why ashes, sand or salt on ice provide roughness, increasing the amount of friction, explains safety measures to use with ice.

One of the dangers with friction occurs when a slippery surface is abruptly followed by a rough surface. For example, if a child is sliding on ice and suddenly hits a rough surface, his slipping stops but not the momentum of his body. This increasing of the friction without cutting the momentum has caused many falls. At this point, the teacher can explain needed precautions.

In the intermediate grades, friction and safety problems might be illustrated by discussing a student on a bicycle or roller skates who has fallen down and slid on gravel or the sidewalk. The rough surface of the ground or sidewalk comes in contact with the child's skin, and cuts or burns are the usual outcome.

A child at this age might want to experiment with the principle involved. The children can push materials of different textures, such as boards, shoes and bricks, across the floor. Then, reduce the friction between the object and floor and push again. Students will note the difference in effort as the amount of friction is reduced.

Children in the upper-elementary grades might want to experiment to see how friction helps to prevent accidents by keeping objects in place.

Make an inclined plane by putting one end of a short board on a block. Place a small square block on the incline. Notice that it stays in place. The surface of the two boards grip each other. Put a small ball on the incline. It rolls off because there are not enough surfaces gripping at the same time.

Place a roller skate on the same inclined plane. It also rolls off. Then lock the wheels of the skate by crossing rubber bands over them on both sides. Place locked skate on the incline and notice how the friction of the rubber keeps them from sliding. Have the youngsters suggest how this is related to brakes on an automobile.

Electricity—Electricity can produce heat as well as light.

Children in the primary grades need to learn that they should not plug in or use electric appliances unless supervised by an adult. Students of this age know that we use electricity for light but are not always aware that this same electricity also can produce heat.

The teacher can demonstrate by bringing in a table lamp and an electric toaster. When the table lamp is plugged in, the children will see that light is produced. By holding their hands over the bulb they will be aware that heat is also produced.

When the toaster is plugged in, they will notice that the heater coils heat up a great deal but do not produce very much light. Touch a paper napkin to the coils. This will cause the napkin to catch fire. (Use care) Place a piece of bread in the toaster and leave it in until it burns. In this way you can demonstrate that electric appliances can both start fires and burn materials that come in contact with them, if not properly regulated.

Intermediate grade children are old enough to do some simple experiments in overloading electric circuits. They need to learn that electric circuits become overloaded when they are carrying too much current for the size of the wire in the circuit.

A good start in this study would be to have each child investigate to see how the electrical system of his home is protected against damage due to overload. Older homes are likely to have fuses while newer ones have the newer installations using circuit breakers.

turn page

An appropriate demonstration can be conducted showing the principle of the fuse. Make a fuse from a piece of foil, such as that from a chewing gum wrapper. Cut a narrow strip and then thumb tack each end to a board. Connect this fuse to a dry cell battery. If the foil is thin enough it will get hot and then melt. This illustrates the action of a fuse when a circuit becomes overloaded. The fuse burns out rather than the entire electric circuit heating up to the point where it might cause an extensive fire.

Let the students take a commercial house fuse apart in order to see its resemblance to the one they made.

Children in the last few years of elementary school are capable of understanding the principle of a circuit breaker as well as that of a fuse. They should also understand that they serve the same purpose as the fuses and are easier to handle.

Try to locate a circuit breaker that can be taken apart. The children will quickly notice that the "fuse" part consists of two unlike stripes of metal fastened together. When the circuit becomes overloaded, these pieces of metal become overheated as did the fuse. But, instead of burning up, they expand. Since this breaker strip is made of two different kinds of metal, the strip bends in one direction releasing the switch mechanism in the circuit breaker. The circuit is broken and electricity ceases to flow. When the strip has cooled, the breaker can be "re-set" and the circuit will operate normally if the cause of the overload has been removed.

Another way to show the circuit breaker action is to secure a number of different kinds of metal of the same size. Heat them simultaneously with the same amount of heat. It can be readily noticed that some metals bend much sooner than others. This is due to differences in their coefficients of expansion.

Children in the upper-elementary grades are old enough to realize what can happen when a penny, for example, is used behind a fuse. It will not be difficult for them to see that the fuse is being bypassed and that the circuit, in this instance, is not protected. In this connection they will also realize that a fuse or circuit breaker that continually "goes out" means that the circuit is either overloaded or defective.

The Wedge—The wedge is one of the most useful of the simple machines. It consists of two inclined planes, "put together." If not handled properly, a wedge can be dangerous.

Children of the primary grades can be shown the operation of a wedge by driving a wedge under the leg of a table, elevating the table from the floor. A knife is a wedge and usually a very sharp one. Show this by cutting an apple in half. The knife forced the two parts of the apple aside. Help the children to see, by cutting other objects, that with enough force behind a wedge most any object can be divided. This demonstrates why we should not run or play with knives or other sharp wedge-like objects. It can be shown also that such objects should not be left where they might fall and injure someone.

Boys and girls in the intermediate grades have many occasions on which they make use of the wedge in the form of a knife, an ax or a chisel. Those that are scouts frequently split wood for campfires. The ax, which is a form of the wedge, is really a simple machine. As such it gives the user a mechanical advantage. That is, less force is needed because it is applied over a larger distance. Let the students work out this concept for themselves by splitting logs with short stubby wedges and then with long thin ones.

A collection of different forms of wedges can be made to illustrate this simple machine. For the safety aspect of this study, let the class derive its own rules for the safe use of these tools.

Older children should be helped to see how the double inclined plane, or wedge, is used on compound machines. They should also work out the related safety factors involved.

Help them to understand the use of the wedge in such things as a plow, the cutting edge of a hoe, the holding of gears on a shaft, etc. Have the class make a collection of parts of machines and pictures showing the wedge in use.

See if they can identify, in each instance, the proper use of the wedge. As an example, how does the wedge in the handle of a hammer hold the hammer head?

Other Possibilities—Other possibilities include the study of bacteria, hearing and sound, acids, clothing, water safety, the safe use of bicycles and myriads of others.

The safety and science concepts just illustrated, using friction, electricity and the wedge, illustrate the possibilities for teaching science concepts as safety concepts in the primary through the intermediate and up into the upper grades●

BULLETIN BOARD

Tumbling in dryers Police warned against a "growing craze" among teenagers—"tumbling" in a laundromat dryer. It happened in Minneapolis, where police say the youths head for an all night laundry to see who can stay in the dryer the longest.

Look who foots bill New car dealers loaned 13,805 cars for driver education during the 1959-60 school year. According to the Auto Industries Highway Safety Committee, 8,415 cars, valued at more than 21.5 million dollars, were loaned free; another 1,105 were loaned free by other sources; 2,776 were bought by the schools and 1,509 were rented or leased.

FBI honors H. J. Stack Herbert J. Stack was honored recently by the Federal Bureau of Investigation. Stack, a member of the staff of the Center for Safety Education, New York University, received a special certificate for his 25 years of service as an instructor in the FBI's National Police Academy.

College "first" A "first" was scored at West Virginia University. The name of a school there was changed to include safety in its title. It's now: School of Physical and Health Education, Recreation and Safety. According to Dean Ray O. Duncan, this is unique among the 15 universities and colleges over the country which have separate schools for the field. They made the change, Duncan said, to make the title descriptive of the curriculum, organization and responsibilities of the school. The new structure creates a Department of Safety Education, headed by Charles Peter Yost. In addition, a visiting committee was set up to advise the staff on industrial and professional needs throughout the state.

Research on repeaters Drivers in Washington, D. C., who have had their license revoked or suspended will be subjects of a three year study on driver attitudes. Researchers at George Washington University, under a grant from the National Institute of Mental Health, will divide violators into two groups: one will continue in the District's traffic school and the other will take personality and attitude tests and three group counseling sessions. All their driving records will be kept and examined for at least three years in hopes of finding what attitudes are common among repeaters.

Collegians score zero A score box on accidents is being run by a college newspaper this year as part of its safe driving campaign. The *Ledger*, student paper at Leicester (Mass.) Junior College, started off with a perfect record of "zero" on the score box for crashes, injured and killed. The *Ledger* says: "If you drive carelessly enough, your car will last a lifetime."

Winter Time —

Learn to

by John Gough

Excited but orderly, fifth graders file from locker room where they shower before swim lesson in fresh water pool.

ALTHOUGH winter is usually ice skating time, one Canadian school district decided it is also a time for swimming. Because Victoria, B.C. faces directly on the sea and has several sheltered lakes, school officials felt every grammar school student should be given the opportunity to learn to swim.

The swim training program, aimed at fifth graders, was possible because the schools could rent a local heated swimming pool and transport students by bus.

Why was the grade 5 level chosen? Because it functions more or less as a complete unit throughout the year and is usually unaffected by departmentalization or platooning. Children in this grade are old enough to appreciate safety factors involved in water activities and can take care of themselves when changing clothes and taking showers.

Children spend 40 minutes swimming in the water. The last five minutes are considered play time.

We have 65 to 70 pupils in each teaching unit. They're divided into five groups and classified as "advanced," "paddlers" or "beginners." Five instructors—usually three trained by the Red Cross and two regular classroom teachers—are required for the five groups.

The Crystal Garden swimming pool, operated by the Canadian Pacific Railway Company, is 40 feet wide, 150 feet long and about 30 inches deep at the shallow end. Ropes placed 20 feet and 40 feet from the end of the pool divide the shallow section into two areas.

"Beginners" use the shallow water between the edge of the pool and the first rope. "Paddlers" who can swim the width of the pool in any fashion, are divided into two groups with one group being placed on each side of the pool between the ropes. The "advanced group" is assigned to the deeper end for they can swim the length of the pool already, half way on their stomachs and the rest on their backs.

The program is organized as follows:

1. Each child takes one lesson a week for eight weeks as part of the physical education program for the year. In addition to the swimming instruction, pupils are taught how to use dressing rooms, showers, toilets and how to walk through corridors. This instruction insures a high standard of conduct.

2. Two regular classes, combined from two schools if necessary, comprise a swimming group.

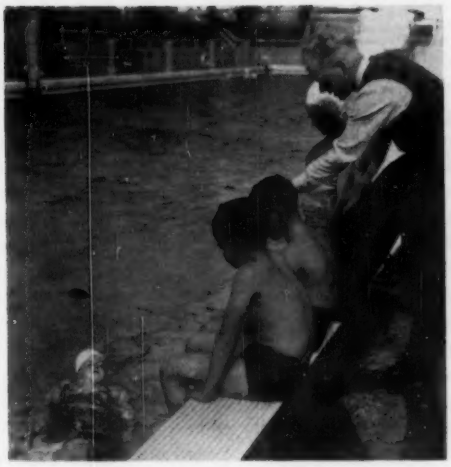
3. Lessons are held daily at 10:40 a.m. and 2:30 p.m. Extra sessions are held at 9:30 a.m. when needed.

4. Generally speaking, the regular teacher and sometimes a staff member who is particularly interested in the swim training program accompany each class to the pool. Classroom teachers instruct any group which they qualify for—usually the "paddlers."

5. The supervisor of physical education assists new teachers for the first two or three lessons and then makes periodic checks.

6. Teachers who assist with the actual training program for the first time, make a preliminary visit to the pool for a briefing by the supervisor of physical education.

John Gough is district superintendent of schools, Greater Victoria Schools, Victoria, B. C.



A regular classroom teacher explains proper swimming form as student demonstrates technique for her group.

Swim Time

7. The purpose and nature of the lessons are explained to parents in advance by notices the children take home. Parents who want their children to participate in this program must sign this notice.

8. During the fifth week of the program, parents are invited to see how their children are progressing. In the seventh and eighth weeks, tests are given to the children in the three levels. Pupils who qualify are presented with a small card showing their achievement.

9. During the eight weeks the children see films, such as, "Swimming for Beginners" and "Learn to Swim" at their schools.

10. At the end of the course, the children see a 45 minute demonstration on water safety practices. Shirt-tail life saving, reaching assists, swimming assists to a panic-stricken child and safe boating practices are illustrated by two Red Cross instructors and their young sons. A radio announcer explains these techniques during the demonstration which is watched by half of the students in two successive presentations.

At the end of the eight lessons approximately 66 per cent meet the maximum test requirements for their respective levels and 29 per cent meet the minimum test requirements. Five per cent fail to meet even the minimum test requirements.

The "paddlers" make the most progress, especially in swimming on their backs and in treading water. Although the "advanced group" makes great headway with the elementary backstroke and the side-stroke, they often find it difficult to break bad habits learned previously in connection with the crawl-stroke.

In 1960, annual estimates of the school board included $4,450 to cover rental charges of the pool, transportation of pupils by bus and employment of instructors. Because some of the regular classroom teachers help train their pupils, the cost for employing instructors is relatively low.

Not only has the school board's swim training program been well received by parents and community leaders, but it has encouraged other organizations to run supplementary training programs during summer vacations. This provides the children of Greater Victoria with abundant opportunities to become swimmers if they will only take advantage of them●

Tests given during the seventh and eighth lessons cover the following skills:

For beginners—
Jelly fish float
Front float to stand
Back float for 5 seconds
Breathing exercise and
Glide and flutter for 25 ft.

For Paddlers—
Back float for 5 sec. and turn to
front float for 5 sec.
Plain dive
Back flutter kick for 40 ft.
3 reaching assists and
Jump in and swim free style for 40 ft.
and return with back stroke.

For Advanced Pupils—
Stride jump entry
Tread water for 3 min.
Duck dive in 6 ft. water
Swim 40 ft., sculling or finning
Swim 40 ft. with elementary back or
life saving kick
Dive from 1 meter board
Arm and leg assists, clothed and
Swim 75 yds, using side or breast-stroke,
crawl, and back crawl (25 yds. each).

by Marie A. Hinrichs, M.D.

Confusion

WHEN the unexpected happens, and innocent little lives are snuffed out or bodies broken for life, we look around for someone or something to blame for that *one* accident. But we fail to recognize that this one experience may be but a manifestation of an attitude and a repetition of an act which has become a habit. It has never failed before. Why now?

The interaction of a child and his environment forms the basis for his behavior. Striving to understand and master his world through bold exploration or timid imitation, or by trial and error, has ever been fundamental to survival.

The child's world is molded by extrinsic factors and his responses colored by intrinsic urges. *Extrinsic* factors extend or limit the child's horizon. Competitive peers; over-anxious parents demanding too much, or neglectful parents caring too little; over-organization crowding out leisure or protracted boredom blotting out or dimming appreciation; academic pressures for the child with a limited capacity, or lack of stimulation for the sophisticate whose work is completed in record time; all these could mean trouble ahead.

"We" are among the extrinsic factors when we build a highway next to a school, or build the school near a busy intersection. We offer them equipment which is sometimes unsafe; we provide them with play areas which are full of hazards, yet we expect them to compensate for our lassitude with caution beyond their years. When *they* fail, we rebuke them for their stupidity or punish them for their clumsiness. By our actions, we cause them to have fears, to feel insecure, to rebel and to fail to choose the best way because we have not shown them how, through principle, practice and precept.

Intrinsic forces expressed as pent-up emotions are suddenly triggered into uncontrolled fits of anger, panic, hostility or rebellion as the child relates himself to his peers, the adults in his world or the world itself.

In his bid for recognition, he may find himself in competition working beyond his capacity to achieve. He reacts as well as he can to the demands of home, school and community. To us, he appears at one time rebellious, aggressive, reckless, too imaginative, and at another time, withdrawn, indecisive, using poor judgment, taking needless risks, lacking foresight or ignoring rules. Accident susceptibility goes up when any of these behavior patterns operate, either alone or in combination.

How can we recognize the feelings and needs expressed through various behavior patterns which could lead a child to have an accident or to cause an accident?

Frustration

First of all, we introduce the child to *our* world, forgetting sometimes that *his* world and ours are far apart. We set up a battery of prohibitions which he cannot understand. His frustrations may lead him to unguarded and dangerous explorations, as in the case of the small child who wants to know why he must "keep away from the stove,"or "never play with matches." When his compliance with our prohibitions is not backed up by his understanding, confusion results.

Who can predict what a child will do who lives in a home where adults use matches freely and where they are easily available? A break-

through of a barrier such as "Don't you dare," or "Just try it and see what happens" answers a challenge.

A Bid for Recognition

The desire to excel or to win the admiration of his peers, when not satisfiable in ordinary ways, may lead a child to seek other, more exciting outlets. A large, awkward child may not be able to compete in running games, but may show his prowess in fighting and perhaps injuring children who are smaller and not as strong as he. Or he may dare or force a child into a situation which he cannot handle. For example, he may dare a little child to climb a high tree only to see him fall because he cannot help him down, or he may challenge another child into water beyond his depth, and then not be able to rescue him.

Showing Off

A child who does not easily win his peer support may "show off" or extend his abilities too far. He is the kind of youngster who calls from his bicycle, "Look, no hands," or "Watch me beat that car." You may see him cross diagonally at an intersection. "Who needs a green light?"

Confusion

A confused child is rarely a safe child. He may become fearful in his confusion. For example, in crossing the street alone, he may have to choose quickly whether to go ahead, run back or stand still. An oncoming driver may be unaware of the child's confusion and expect him to do the opposite of what he finally does. He may be unable to stop in time.

Panic

The child who panics easily is fair prey to accident by drowning when he suddenly finds himself alone and out too far from shore. Such a child is likely also to become a fire victim because, in his fearfulness, he forgets where the nearest exit is, or what he must do if that exit is closed. Confusion, fear, indecision and panic are frequent preludes to accident statistics.

Unhappiness

A child whose feelings have been hurt because he believes his father's reproof was undeserved, or because he is denied a pet or a toy and feels there is no justification in the denial, may run into trouble. Such children have been known to exhibit suicidal tendencies, or at least to take needless risks. The world, they feel, has treated them badly. They want to "get back" at those who caused them to suffer.

Education must not only include the basic facts for safety in daily living, but must also help the child to develop attitudes and habits which will prepare him to anticipate and appreciate possible dangers. He needs to develop skills to maneuver accurately, to adjust to change promptly and to choose quickly and correctly when a choice is suddenly necessary, to the end that he shall be in complete charge of himself at all times.

Adults, adolescent friends and relatives of children need to develop a keener understanding and tolerance of children's behavior. Adults need to help children overcome their fears and develop self assurance. Teachers, especially, need to understand more fully the nature of attitudes, how these are built, improved and maintained. They can be most helpful by recognizing emotions and resultant behavior which might cause accidents and by striving to help children handle these emotions.

Children not only need understanding but they need protection through community planning and safer environments. They need schools that are not fire traps, beaches with well trained life guards, recreation areas that are well patrolled and streets that are well protected. They need adults with high safety standards to guide them as they grow from the early stages of complete protection, through the helpless age, the curious age and the pre-school period when they begin to assume more and more responsibility for their own actions. They need teachers, who by their own safe practices, are able to provide them with experiences to develop habits, attitudes and competencies on which to build a safe future●

Dr. Hinrichs is lecturer in health education, Roosevelt University, Chicago, and is in the Department of Health Education, American Medical Association.

in an Adult World

Win Awards for Driver Education

ELEVEN states and the District of Columbia recently were honored for their 1959-60 high school driver education programs.

Cited in the 13th Annual National High School Driver Education Award Program were:

Achievement Award—Arizona, Delaware, Florida, Iowa, Kansas, Michigan, North Carolina and Utah.

Progress Award—District of Columbia, Illinois and Indiana.

Progress Award (for private and parochial schools)—Delaware, Texas and Utah.

Michigan was voted a Special Award for providing driver education in public schools for non-public school students.

"As a new driver, son, you have some mighty important obligations. Your own safety — the security of others, your family's peace of mind —all these depend on the care you give the car, your caution, your courtesy when behind the wheel — and that's why I sold the car today."

Salo's *Laughing Matter*. Reprinted with permission from Chicago Tribune-New York News Syndicate, Inc.

Forty-eight states and the District of Columbia participated in this year's program, sponsored by the Insurance Institute for Highway Safety. The Award Program is the medium recognized by the President's Committee for Traffic Safety as the annual measurement of driver education progress.

Seventy-three per cent (12,600 of 17,227) of the nation's public high schools covered in the 1959-60 report offered a course in driver education. Fifty-six per cent of the schools provided a "qualifying course," i.e., 30 hours of classroom instruction and six hours of practice driving, taught by teachers who have met specified requirements.

Of the 2,085,734 "annual eligible students" (those reaching legal driving age during the year) in public high schools, 1,212,992 or 57 per cent took a course in driver education. A little more than 770,000 or 34 per cent took a "qualifying course."

Walter A. Cutter, director, Center for Safety Education, New York University, was chairman of the Board of Judges.

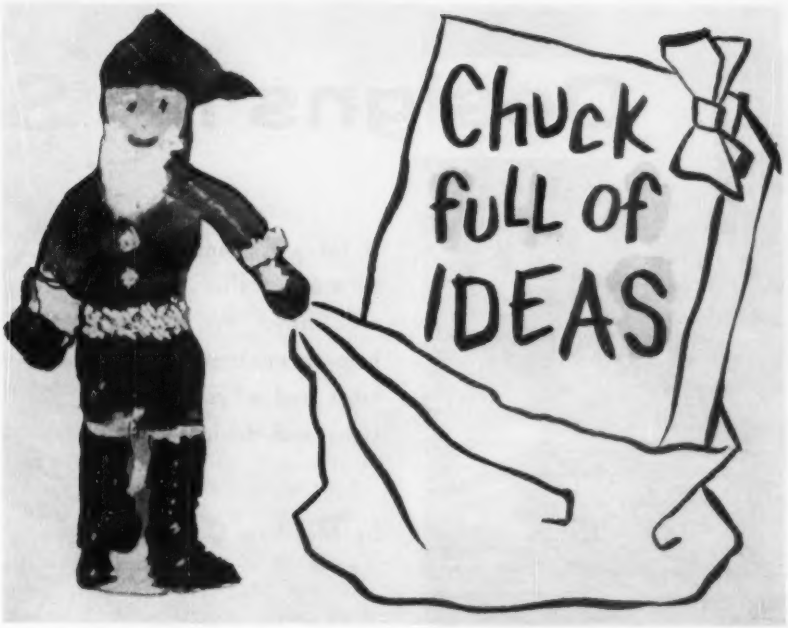
He observed that the percentage of annual eligible students enrolled in all driver education courses dropped 11 per cent during the recent school year—from 68 per cent to 57 per cent.

"The cause of this decline seems to be lack of public support," Cutter said.

"In an informal survey conducted by the Insurance Institute for Highway Safety, it was found that lack of funds for the necessary materials for this course is the major problem. The most logical answer is state legislation to provide money for this project.

"Seventeen states now have legislation providing for financial assistance for driver education. In these states during the 1959-60 school year, 83 per cent of the schools offered a course in which 73 per cent of the annual eligible students were enrolled. In the remaining states covered in the 1959-60 report, only 68 per cent of the schools offered a driver education course and only 45 per cent of the eligible students were enrolled."

Other members of the Board of Judges were: Wayne P. Hughes, National Safety Council; Norman Key, National Commission on Safety Education, National Education Association; Francis P. Lowrey, Auto Industries Highway Safety Committee; John Haack, Davenport (Iowa) Public Schools; Robert Willis, National School Boards Association; Joseph M. Nelson, American Driver and Safety Education Association; Earl Allgaier, American Automobile Association; Jesse T. Anderson, state superintendent of education, Columbia, S. C., and the Rev. O'Neil C. D'Amour, National Catholic Education Association.



WITH FACES all aglow, the children excitedly watched as the last glittering ornament was carefully hung on the classroom Christmas tree. The thrill of Christmas filled the air as each chattered happily about the ornament he had made. It was a beautiful tree.

Decorating it had been fun for the pupils and an excellent opportunity for the teacher to emphasize safety during the holidays. The class had discussed what each could do at home to prevent tragic fires started by Christmas trees. The tree, they decided, should be kept outside until time to decorate. It should be kept in water and the tree lights turned off if no one was in the room.

Preparations for the classroom Christmas time safety program began late in November. There were committees, discussions and rehearsals which created an enthusiasm that grew with each passing day.

Where can teachers get all these ideas? This year, as part of its holiday safety campaign, the National Safety Council has available a packet, designed by the Religious Activities Department to aid teachers, church leaders and clubs in setting up safety programs before the Christmas holiday season.

The kit not only has material emphasizing the greatest threats at Christmas time, but also a program for making the community aware of these dangers. There are safety tips on walking, falls, Christmas decorations, gifts and winter driving along with colorful posters for your classroom bulletin board. These materials can give you ideas for safety lessons which may prevent carelessness leading to holiday tragedy and be fun for your class as well.

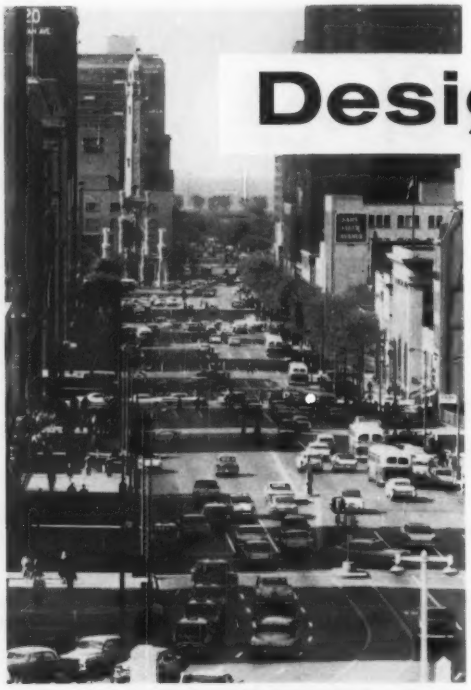
Your class may wish to present a playlet such as one suggested in the kit, which described Mrs. Claus' reminders about home safety to Santa amid the preparations of Santa's Christmas Eve trip.

Or—line your classroom blackboard with pictures the students draw illustrating holiday safety—Dad shoveling the walk to prevent anyone from falling; Mom steadying the ladder while Dad puts the star on top of the tree.

Since this season is a family time—have your class develop *(and use)* a handy safety checklist of Christmas time hazards to watch out for.

You can get this packet, free of cost, by writing to: Religious Activities Department, National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill.

This packet is only part of the Council's holiday safety program. News releases covering fires, toy safety, drying up the Christmas office party, moral aspects of driving and seat belts—the ideal gift for the man who has everything—are being sent to newspapers throughout the country●



Designs for Safe

It takes skill and study to move traffic efficiently. We all can help if we know the hows and whys of certain signs and devices.

by Matthew C. Sielski

MANY people have pet projects and some misconceptions about what should be done to move traffic faster and safer. So-called traffic experts form little pressure groups to crusade for a stop sign here, a traffic light there or a reduction of speed somewhere else.

These "experts" are the majority of drivers who feel they understand traffic behavior. Unfortunately, they don't and therefore are unable to judge right or wrong methods of handling traffic. The traffic engineer has the responsibility for planning and designing streets for the efficient and safe movement of vehicles and goods. We can develop better drivers by acquainting them with traffic operation techniques as well as good and bad traffic engineering.

Misconceptions About Good Traffic Engineering

One outstanding example is the question of speed on a highway. The very word "speed" is so misused and misunderstood that it becomes difficult for a traffic engineer to post any limit without getting criticism from some source.

Oftentimes it is speed "too fast for conditions" that is the root of our difficulty in the cause of accidents. This should by no means be construed as referring to high speed or speeds, for example, of over 60 mph. Statistics compiled by the National Safety Council show the per cent of fatal accidents which occur at the following speeds:

0 to 20 mph — 16%
20 to 60 mph — 66%
over 60 mph — 18%

From these statistics, we can see that there are nearly as many people killed by cars going less than 20 mph as those traveling more than 60 mph. The important point here is that drivers must acquaint themselves with existing situations to determine proper speeds. This cannot be corrected by posting a speed limit at random. In many instances an increase in speed limits has decreased the average speed through an area. This points up the fact that speed limitation must be decided only after a competent traffic engineering study has been made. Determination of posted speed limits should not be decided by a P.T.A. group, a women's organization, or any other community group. It should be left to traffic engineers. Often such "amateur" interference will do more to increase accidents than to lower the rate.

Traffic engineers, in establishing a speed limit, study the speed of vehicles traveling over a portion of a roadway. The speed limit selected for a portion of a street is determined by the

Matthew Sielski is director, Safety and Traffic Engineering Dept., Chicago Motor Club, Chicago, Ill.

limit attained by 85 per cent of the vehicles traveling in the tested zone. In other words, if 85 per cent of vehicles in the specified area travel 30 mph, this speed becomes the recognized safe limit. It then becomes necessary for police officers to enforce the speed among the 15 per cent who exceed this limit.

Traffic Signals and Stop Sign Panacea

Another problem facing traffic engineers is the demand for traffic signals and stop signs to reduce accidents. Basically, a traffic signal is established to regulate traffic more than to reduce accidents. A traffic signal is no cure-all for preventing accidents. As a matter of fact, certain types of accidents are increased when signals are established. Most prominent of these are rear-end and severe right angle collisions. However, when traffic volume is sufficiently heavy at an intersection from all directions, it becomes necessary to put in a signal to move the traffic efficiently. A recognized standard basically specifies that if in one hour, 1,000 vehicles travel through an intersection, of which 250 are from the minor street, a signal should be established. This condition must exist for six one-hour periods of the day. Other situations that might warrant a signal would be, for example, a sufficient number of pedestrians.

The same situation applies to "Stop" signs, except that the volume warrants are lower. Again it must be pointed out that a "Stop" sign improperly used could contribute to increased accidents. This may result from a motorist's defiance of an improperly established sign. Many persons feel that a stop sign is helpful in decreasing speed in an area and, consequently must be used at many intersections. Unfortunately, these people do not realize that today's car can accelerate quite quickly and a frequent number of unnecessary stops leads to disrespect and, unfortunately, serious accident potentials.

Traffic Signs

There is a popular misconception regarding the use of such signs as "Drive Slow," "Drive Slow, Children Playing," and many other similar types of signs. These are psuedo methods for developing safe driving conditions. Unless a sign has a definite purpose through use of a definite message, motorists will not heed the advice. Consequently, traffic engineers attempt to use only signs which are known to be effective. As an example of a proper type of sign, I refer to the recently adopted "Yield" sign. This is a message which makes sense to the motorist and one that he will observe in good faith.

Examples of Good Traffic Engineering

Having indicated some of the problems facing the engineer, I will show how a traffic engineer goes about solving hazardous situations. In the first place, he relies on the accident reporting system maintained in his office. He studies accidents at specific locations and tries to find hazards. Such things as visibility, poor lighting, inadequate signs and parking too close to intersections might have contributed to the accidents. Another tool he uses is his accident spot map which indicates the high accident areas. He can refer this information to the police department and suggest that "Selective Enforcement" be applied. This means that the police department enforces the regulations which are most violated and which may be factors in the large number of accidents in that area.

With collision diagrams of intersections and a study of existing situations, the traffic engineer is able to make a scientific analysis of the cause of the problem at hazardous locations. Sometimes some paint and the removal of some obstructions, can create safe conditions without installing stop signs or traffic signals.

Other techniques involve geometrics. The traffic engineer can redesign outdated intersections so as to meet today's traffic needs. For example, many of our major intersections at one time were used as market places. With the advent of the automobile and with the mingling with pedestrians, these intersections must virtually be redesigned through "channelization." The traffic engineer can remove many hazards that create potential pedestrian and vehicular accidents. In addition, he can move traffic faster and safer. Channelization can include anything from a small safety island to large expansive areas involving separate left turn bays and right-turn movements.

Greater efficiency has been obtained on many major arterial streets by applying other traffic engineering principles. One involves the use of traffic signal controls. Many of our modern traffic signals are practically human beings who can recognize volumes of traffic and can re-time

themselves to allow proper distribution of the green signal and thereby move traffic through intersections at safe and efficient speeds and volumes. Modern signal progressions enable pre-set speeds for longer lengths of the street system. Continuous research in traffic signal operations has enabled engineers to move great volumes of traffic on our streets and to do so more efficiently than traffic officers can.

Greater efficiency also is being obtained through techniques such as eliminating parking during rush hours and adopting reversible lane movements on certain streets during certain hours.

The use of proper pavement markings at intersections to direct traffic has also done much to increase the capacity on many major arteries. Through these devices, traffic engineers can "squeeze" every ounce of additional capacity out of our streets. This is important because, while we are building more expressways in many urban areas, they carry a minor volume of the city's total traffic. The majority of our traffic moves on our major streets. Therefore, it becomes a problem of the traffic engineer to use all of his skill to gain the greatest efficiency and safety from those arteries.

Driver Education People Can Help

Driver education people could help by becoming more acquainted with their traffic engineering personnel and offering assistance when studies are being made. They could acquaint their students with the techniques used by the traffic engineering department to handle traffic in their city. This information will give driver education students a better understanding of today's traffic picture and will enable them to give knowledgeable support to programs where modern techniques are used to solve community traffic problems●

Deadline is near—

the Norman E. Borgerson $50 Award

for safety education supervisors

The safety education supervisor who writes the best article for SAFETY EDUCATION will be awarded a $50 bond. The award will be offered yearly for five years and is open to anyone who has responsibilities for safety in his school or school district. Judges will select the winning article on the basis of content, form and contributions to the field. Articles should not exceed 1,000 words and may be submitted any time before Dec. 31, 1960 to the editor. The School and College Department has named the award in honor of its donor—Norman E. Borgerson.

A happy holiday for all, if we —

Listen to History

IF WE do not listen to history, we may have to relive it."

Whoever said it originally would agree that it can serve as a warning to all motorists over the Christmas and New Year's holiday weekends.

The National Safety Council can provide us with the "history" based on the experiences of a similar holiday weekend—the last Fourth of July. The Council said that of the millions and millions of folks who took to the road over the Fourth, 442 people were different. They didn't return. They died in the holiday traffic —some as drivers, some as passengers, some as pedestrians.

Why did they die? What were the conditions and circumstances of their death on the streets and highways? Was there a pattern to their deaths? Does holiday horror on the highway follow a formula?

The Council asked traffic safety coordinators of the 50 states to ask questions that normally are not included in police investigation of holiday traffic crashes. When the returns were in, the Council had received answers covering more than 400 of the 442 holiday traffic deaths.

Here are the highlights of what the survey revealed:

1. Not a single one of all the people who died in these traffic accidents wore a seat belt! In 42 per cent of the fatal crashes which did not involve a pedestrian and in which the Council's question on the advantages of seat belts was answered, the investigator stated definitely that seat belts would have saved the victims' lives. In another 20 per cent, the investigator felt seat belts probably would have prevented death.

2. Fifty-one per cent of the fatal holiday crashes occurred in the first 30 hours of the 78-hour holiday period which began at 6 p.m. Friday. Nine per cent of the accidents came in the first six hours (the Friday night period), 42 per cent in the 24 hours of Saturday and only 23 per cent in the final 24 hours on Monday.

3. During the first 12 hours of the holiday period, traffic deaths averaged almost six an hour. In the final 12 hours—from noon to midnight Monday—the average came down to just a little more than four an hour, despite the rush of homebound traffic.

4. Three out of five of the fatal holiday traffic crashes (62 per cent) involved only one vehicle. That is, the car either ran off the road, hit a pedestrian or crashed into a fixed object.

5. Almost one third (31 per cent) of the drivers involved in the fatal holiday crashes were under 25 years old. Eighteen per cent were under 20.

6. Where drinking or speeding were involved in the fatal holiday crashes, half of the drivers had records of previous violations—mostly for speeding or drinking.

7. Three out of four of the fatal holiday accidents reported (73 per cent) occurred in rural areas, as contrasted with city or built-up suburban areas. Fifty-four per cent of the accidents in which pedestrians were killed occurred in rural areas.

8. Almost three out of five fatal holiday crashes occurred on roads with which the driver was familiar. Fifty-eight per cent of the drivers involved in the fatal accidents had driven the death road frequently, 29 per cent had driven it occasionally, and only 13 per cent rarely.

9. Half the fatal accidents occurred within 10 miles of the driver's home. More than one third came within five miles of home. Two thirds came within 25 miles and three fourths within 50 miles. Only 7 per cent came more than 250 miles from home.

10. Four out of five of the fatal accidents occurred in the driver's own state.

11. Twenty-five per cent of the trips which ended in death were for the purpose of visiting friends or relatives. Twelve per cent were for picknicking, 11 for business, seven for shopping, five for going to or from work. Only two per cent were for vacation trips which just happened to include the holiday period.

12. Fifty-five per cent of the fatal holiday accidents came on the way home, and 45 per cent while going. On picnic trips, two out of three fatal accidents occurred while returning. On business trips, three out of four came while returning. In trips for visiting, however, they occurred more frequently while going●

Focus on

at reception for Norman Borgerson's retirement and during School and College breakfast

Delegates enjoyed social hours —

Delegates not only listened but worked in the elementary school sessions. This workshop group develops methods to convey concepts of safe living.

Chairmen were honored for their hard work and fine ef

Lowell B. Fisher
NSC vice president

J. Duke Elkow
School and College Conf.

John T. Haack
Driver education section

Lewi
Saf

Congress Delegates

tackling driver education problems and working together in the annual Conference meeting

Then buckled down to serious business

From all parts of the country, from all grade levels, educators met at the National Safety Congress to seek, share and perhaps solve some accident prevention questions.

Higher education meeting above; below: Fisher presents Herbert Stack certificate of honorary life membership in School, College Conference.

rts

. Clark
supervisors section

Ivan L. Eland
Former staff member

Breakfast MC, Homer Allen

At lunch, Judy McGuinness

Opening lecture, J. C. Wright

Closing elementary session, Leslie Silvernale

Role playing to illustrate an elementary school situation which jeopardized its safety program; audience buzz sessions worked on solutions.

Ruth Jewell was honored as chairman of the Elementary School Section; Here she leads spontaneous singing at the Borgerson reception.

Driver education panel confirms the use of compact cars in behind the wheel training and tells how and why small cars are useful.

safety education data sheet no. 50 rev.

safety in the

General Metals Shop

Statistics

1. There are no national statistics on the number of accidents or injuries sustained in school general metals shops. However, various studies have been made which give some insight into the situation. One study in 300 high school shops in 10 midwest states revealed the following:

Of 766 accidents occurring during a single school year, hand tools were responsible for 66 per cent—power driven machinery 23 per cent. Thirty-three accidents causing loss of some part of body were reported.

The Problem

2. From the above figures it can readily be seen that every school having a general metals shop (or any other shop) should also have a safety program to train students not only to observe safety rules but to know *why* they must do so. Therefore, the program should definitely include rules which students themselves help formulate.

General Safety Precautions

3. Be sure that all machines have effective and properly working guards that are always in place when machines are operating. Replace guards immediately after any repairs.

4. Do not attempt to oil, clean, adjust or repair *any* machine while it is running. Stop the machine and lock the power switch in the "off" position.

5. Operate machines only after you have had complete instructions on them.

6. Even after the power is off, do not leave machines until they have stopped running. Someone else may not notice that they are still in motion and be injured. This applies particularly to grinding wheels and circular saws. And do not try to stop with hands or body *any part* of *any* moving machine.

7. Always see that the work and cutting tool on any machine are clamped securely before starting.

8. Sheet metal should not extend over the edge of bench. Keep floor clear. Put scraps in container provided for them.

9. Power should be turned off and no machines operated when the instructor is out of the room.

10. All set screws should be of flush or recessed type. If they are not, move with caution when near them. Projecting set screws are very dangerous since they may catch on sleeves or clothing.

11. Get help for handling long or heavy pieces of material. Follow safe lifting practices—lift with leg muscles, not the back. If you do not know how to lift safely, ask instructor to show you.

12. When working with another student, only one should operate machine or switches.

turn page

13. Do not lean on or against machines.

14. Cuts are caused by improper handling of sheets of metal. Do not allow sheets, tin plate or oiled sheets to slip or slide through your hands. Do not attempt to catch or stop a falling sheet. Be careful of thistles left on sheets by the improper use of snips.

15. If certain areas are restricted by floor markings, observe restrictions set up by such zones.

16. Do not run in the shop; and there should be no horseplay in the shop at any time.

17. Concentrate on the work and do not talk unnecessarily while operating machines. Don't talk to others when they are operating.

18. Report all injuries and get first aid immediately.

19. Be sure you have sufficient light to see clearly. Check with instructor if you do not have enough.

Clothing and Equipment

20. *Always* wear safety glasses, goggles or face shields designed for the type of work when operating *any* machinery, or while welding, soldering, etc.

21. Wear clothing suited for the job. Wear shoes with thick soles—safety shoes if heavy work is being done. Do not wear rings, wrist watches, bracelets or other jewelry that could get caught in moving machinery. Do not wear neckties or loose or torn clothing of any kind. *Do* wear shirts or jumpers with sleeves cut off or rolled above the elbows. However, in operations such as welding, handling hot or molten metals or acids, sleeves should cover arms and wrists.

22. Always *remove gloves* before turning on or operating *any* machine. If material is rough or sharp and gloves must be worn, place or handle material with machine turned off.

23. When gloves are needed, wear canvas or reinforced gloves for heavy, rough work. Leather gloves or hand pads are better than canvas for handling sheet metal, castings and sharp scrap. Use hand pads or asbestos gloves for hot material.

24. Rubber gloves are a *must* for handling corrosive chemicals.

Electricity

25. All switches for machines must be located where operator can reach them quickly and without leaving his work.

26. Familiarize yourself with location of all switches, especially emergency switches.

27. Buttons and switches must be of type which cannot be accidentally closed and thus start any machinery. Recessed "stop" and "start" buttons are a good safety feature.

28. Do not overload any machine. Check with instructor if you don't know its capacity.

29. *Be sure all portable electric tools are grounded;* do not use them unless a ground-wire is provided. Be sure cords are free of kinks and not dragged over hot or rough surfaces or through chemicals. Keep cords free of grease and oil. Do not trail cords across aisles or hang them low between machines. They are tripping hazards. Check all electric cords often to see that they are in good repair.

30. Before using fixed machines run by electric motors, be sure frame is grounded.

Fire Precautions

31. Learn location of fire extinguishers and how to use them.

32. Store flammable liquids in metal containers. And store paints, lacquers and thinners in a metal cabinet away from open flame. Keep only limited supply of these materials in shop—enough for active use.

33. Be sure to put all oily rags or waste or paint rags in metal containers with tight covers.

Housekeeping

34. Keep floor free of oil, grease or any other liquids. Clean up spilled liquids immediately; they are slipping hazards.

35. Aisles should be clear at all times to avoid tripping or other injuries.

36. Store materials in such a way that they cannot become tripping hazards.

37. Do not leave tools or work on the table of a machine even if machine is not in motion. They may fall off and cause toe or foot injuries. Put tools or work away when not in use.

38. Put all scrap in scrap boxes placed adjacent to each machine.

Equipment

Hand Tools

39. Safe use of hand tools is covered in Safety Education Data Sheet No. 15—Hand Tools. However, a few general rules are repeated here.

a. Select the right tool for the job and make sure it is the right *size* for the job. Don't use makeshifts; they are dangerous.

b. Be sure tools are sharp and in good working condition before using them. Dull tools require force, causing accidents.

c. Wipe hands and tools clean before use.

d. Carry tools with cutting edges or sharp points facing down. Do not carry pointed or sharp tools in pockets.

e. Carry only the number of tools which can be managed safely.

f. Hand tools to fellow worker handle first. Never toss them.

g. Clean tools before putting them away and store them so they cannot fall, causing injuries, and so they do not become damaged while not in use. Damaged tools are not safe.

Shapers

40. Be sure ram, tool head, tool, work, table support clamping screws and vise are properly secured in place or position and that tool head and tool clear the work before starting shaper. Place a metal shield or heavy, close mesh wire screen, over the tool to catch the chips.

41. After setting stroke length and position, check to see that adjusting nuts are tight.

42. Remove all wrenches from machine after completing set up. If magnetic chuck is used, be sure current is on before starting machine.

43. Stand parallel to direction of stroke of machine when it is operating and never reach across table between strokes of the ram nor remove chips while ram is in motion.

Planers

44. After work is fastened, check to see that it clears cross rail; see that stop pegs are in proper places and safety dogs are secured in position. See that feed rod and its attachment are properly located and in proper working order.

45. Have planer idle when adjusting length of "bed" stroke and adjust length of stroke and speed of machine to suit work.

46. Do not reach over a moving job and never ride the "bed."

47. Leaving tools of any kind between the ways is extremely hazardous.

48. When loosening tool holders, hold tool with one hand or place a wooden support under it.

Milling Machines

49. Make sure that cutter and arbor are secure and that cutter and arbor support will clear work. Use only cutters that are correctly ground and in good condition.

50. To avoid striking hands on cutter while setting up, move table with work as far away from cutter as possible.

51. When using cutters in a vertical milling machine, do not take an excessively heavy cut or feed. Such a feed or cut could break cutter and injure operator.

52. Do not attempt either to tighten or to take off arbor nut by applying power to machine. Make sure motor is stopped to prevent machine's starting up accidentally.

53. Check speeds and feeds, and feed work against direction in which cutter is rotating. Otherwise, cutter may climb work and injure operator. Reduce speeds 50 per cent for cast iron.

54. Keep hands away from work when machine is running. Never reach over a revolving cutter, especially the side of cutter which cuts into work; use a suitable brush if chips are to be removed from work.

Drill Presses

55. Use drills properly sharpened to cut to the right size and see that drill is running true. Small drills should revolve at high speed—large drills at low speed. Reduce speeds 50 per cent for drilling cast iron. Drills should be carefully selected as to suitability for the job and good condition. Chuck wrenches must be removed from the drill chuck before starting machine.

56. Never attempt to hold work under drill by hand; clamp it securely to table before starting machine.

57. Run drill only at proper speed; forcing or feeding too fast may result in broken or splintered drills and serious injuries. Change belt for speed regulation only when power is off and machine has come to a complete stop.

58. If work should slip from clamp, never attempt to stop it with hands. Stop machine and make any adjustment or repair. If drill sticks in work, shut off motor and start drill by hand.

59. File or scrape all burrs from drilled holes.

60. Do not reach around or in back of revolving drill.

61. Keep your head back and well away from *any* moving part of the press.

Metal Lathes

62. Before turning on power, check to see that tailstock, tool holder and job are properly clamped. If magnetic chuck is used, be sure current is on before starting machine.

63. Use hand power only when putting on or removing chuck or faceplate. Do not use the power that operates the lathe. When assembling or removing chuck, place board on ways to prevent damage to machine in case

chuck falls. Have firm grip on chuck as it nears end of thread.

64. Do not leave chuck wrench, or any other tool, in the chuck. If machine is turned on, wrench may fly out and injure operator or some other person.

65. Do not use a wrench on revolving work or parts, and never try to measure work or feel the edge, or adjust, a cutting tool when lathe is running.

66. Do not overload the machine. Doing so may cause job to fly out of machine.

67. When filing, be sure tang of file is protected by a sturdy wooden handle in good condition. Stand to one side so that if file is forced upward it will go past the body rather than against it.

68. Do not shift or change gears while lathe is running.

69. Stand erect—this keeps head away from flying chips.

Metal Saws

70. When turning on power, stand to one side of saw frame, then adjust speed to suit work.

71. When saw is operating, do not bend over it.

72. Mount work *only* when saw is stopped.

Using grinder, student wears goggles, short sleeves and no gloves; he holds job firmly against face of the wheel.

73. Support protruding end of long work so material cut off will not fall and possibly cause injury, and be sure that others cannot run into protruding end.

74. When using the sliding stock guide, do not allow fingers to project beyond the end so that they could come in contact with the saw.

75. Be sure that blades for both circular and band saws are in good condition. An indication that the blade is cracked is a sharp, regular clicking noise as the work is fed. Change blade at once if this condition arises.

76. Test circular saws by "ringing," and band saws by pulling blade between the fingers. Give both types careful visual inspection. If blade *does* break in work, shut off power and do not attempt to disengage blade from work until machine has come to complete stop. To prevent hand injuries, use a supporting block when cutting short pieces.

Grinders

77. Stand to one side out of line of wheel when starting it up, especially if wheel is new.

78. Let wheel warm up before using it heavily; work should be fed gradually. Using too much pressure or striking wheel suddenly may cause it to break.

79. Make sure tool rest is only ⅛ of an inch from wheel. Check clearance before using. Too much clearance may cause job to jam wheel and break it. Do not set tool rest while machine is in motion.

80. Use face of wheel only, unless it is designed for grinding on the side. Otherwise, side pressure may break wheel. Whenever possible use entire face of wheel to avoid grooving it.

81. Never use a grinding wheel that is loose on the shaft or if its rate of speed is not safe for the number of r.p.m.'s of the spindle. Check with the instructor for this information.

82. Stop wheel if it chatters or vibrates excessively. This may be a danger signal that wheel is not properly balanced or not attached securely to spindle.

83. When replacing or mounting a grinding wheel, be sure that it is in good condition. Give wheel "ring" test. (Suspend free and clear and tap gently with light, non-metallic implement. If wheel is sound, it will give clear, metallic tone when tapped.) And make sure wheel *fits* on spindle of grinder.

84. Hold job against wheel firmly so that it will not slip out of the hand and cause hands or fingers to come in contact with wheel. Use clamp or other suitable holding device for extremely short pieces. Do not wear gloves or use

a rag to hold work; either of them could get caught in wheel and injure fingers or hands. Always use face shield or goggles even if grinder is provided with protective glass shields.

Buffing and Polishing

85. Wear close-fitting clothing. On jobs where wire mask or respirator, in addition to goggles, would increase your safety, always wear it.

86. Hold object to be polished against wheel at, or slightly below, level of shaft or arbor. Any object caught by wheel then will be thrown down—not toward operator. If possible, do not work directly in line with revolving wheel.

87. Hold small pieces to be buffed in a simple jig. *Do not wear gloves.* Never hold work object in corner of apron or other clothing when applying it to wheel.

88. Two persons should not attempt to polish two objects on a wheel at same time. When a helper is necessary in holding some large object against wheel, use good teamwork.

89. When applying rouge or tripoli to a revolving wheel, hold cake or stick lightly and apply its side to the wheel, rather than its end. Do not use a file for truing the wheel or rubbing off rouge or tripoli.

Squaring Shears

90. Keep guard on shears, and when shears are not in use, keep them locked.

91. Only one student at a time should operate shears.

92. Keep fingers clear of blade and moving parts. *Do not put fingers under knife or hold-down bar.* Remember that shears make razor-sharp edges on sheet metal.

93. Do not attempt to cut more than one thickness at a time and be sure gauge of metal is not too heavy for machine.

94. To avoid crushing toes, do not get feet in way of foot pedal, and do not jump on foot pedal.

95. While stepping on foot pedal, never reach behind machine.

Alligator Shears

96. Be prepared for "kickup" of material being cut. Do not attempt to prevent it but retain secure hold on material. Otherwise, material may swing and drop on feet after cut is made. Shears should be equipped with a kick bar or bracket under which stock can be placed while making cut.

97. Do not cut stock less than 10 or 12 inches long; your hand may be squeezed between stock and some stationary part of the shears.

98. When cutting more than one piece of stock at the same time, avoid pinching fingers between pieces of stock.

99. Do not attempt to cut hardened steel.

Bar Folder

100. Only one person at a time should work on this machine.

101. Remove hands from work as soon as work is in machine.

102. Keep fingers away from folding blade during bending operation, and hold handle firmly; do not permit it to drop back. Other persons should stand clear in case handle should slip.

Press Brakes

103. Keep hands from beneath ram and away from clamping bar and bending lead.

104. Never attempt to adjust position of stock when ram is in motion.

105. When operating the machine, make certain no one is in area of leaf bar or balancing weight.

106. Do not overload machine.

Power Press

107. Be sure work is securely set in bed and in perfect alignment with pressure ram.

108. Make provision to catch shaft, pins or other unit being forced out.

109. At all times keep hands away from pressure ram.

110. See that ratchet is caught on gear before applying power.

111. Do not use excessive pressure.

112. When finished with press, leave ram against pressure table.

Forming Rolls

113. Keep fingers away from rolls and feed work carefully so fingers will not follow work into rolls.

114. The control lever should be extended full length of roll for emergency use from any position.

Ovens

115. Do not light ovens except *under closest supervision of instructor.*

116. Before starting oven, set thermostat at proper temperature.

117. Keep oven closed while heat is on.

turn page

118. Use a rod or tongs for removing articles from hot oven. Do not reach in with the hands.

Gas Furnaces

119. Check for gas leaks before lighting.

120. To light furnace: use small, oil-soaked rag or piece of waste; light rag or waste and drop into furnace; *then* turn on gas. This will prevent an explosion. Stay out of range of flame.

121. Flame should be adjusted so it does not extend beyond furnace. And do not touch any part of furnace after it has started.

122. There should be no flammable material near furnace.

123. See that gas valve is completely closed when furnace is turned off.

124. Except when heating solder pot, keep furnace cover in place.

Soldering

125. In addition to goggles, wear face shield and gloves.

126. Keep sleeves rolled down, shirt collar buttoned, and trouser legs over shoe tops.

127. Melt solder only in a *thoroughly* dry pot or ladle, secured so it can't upset.

128. Never put chilled solder or a *moist* object into hot solder pot or ladle.

129. Place hot irons on racks or holders away from all combustible materials.

130. Turn off current before leaving electric soldering irons. Keep wire and connections in good condition.

131. Do not test temperature of an iron by holding it near face.

132. Do not snap or throw solder to get it off a hot iron.

Electric Arc Welders

133. Wear clothing that completely protects body from rays of arc and from hot metal sparks, and do not wear white clothing when arc welding.

134. Do not touch electrode if you are grounded, and be sure to keep insulated while changing electrodes.

135. With portable arc welding machines, make certain that handle on switch is in "off" position before inserting plug in power receptacle and that interlocking plug is secure.

136. Never look at the arc or its reflection with the naked eye or with gas welding goggles. Wear welding hood and hardened lens safety goggles at least shade number 10.

137. Hood must be in place before striking arc.

138. Keep shields in place to protect others from rays of arc and warn them not to look at arc. Persons working nearby not protected by shields should also wear protective goggles.

139. Keep a fire extinguisher on hand for all welding jobs.

140. Use noncombustible material to support work.

141. Do not work on containers that have held gas, gasoline, oils or other flammable liquids.

142. Avoid tangled cables and do not let them touch hot metal. Where possible, keep cables in overhead brackets.

143. Do not throw rod stubs on floor; they are a slipping hazard. Use scrap container provided.

144. Before picking up any metal pieces in welding shop, check to see that they are not hot. They could cause serious burns.

Oxy-Acetylene Welding

145. Keep all connections gas tight between cylinders, apparatus, hose and piping; and keep them free of grease, oil, dust and dirt.

146. Inspect hose regularly and replace old or worn sections.

147. Before using a cylinder of oxygen or acetylene always reduce pressure through a pressure regulator attached to cylinder valve. And be sure that regulator pressure adjusting screw is fully released before regulator is attached to cylinder and cylinder valve is opened.

148. When opening cylinder valve, open slowly and always stand to one side and away from front of pressure regulator gauge faces. Open oxygen cylinder all the way. Open acetylene cylinder valve not more than one-half turn.

149. Use proper mixture in welding torch and always *maximum* amount of gas for given size welding tip.

150. Use friction lighters or stationary pilot flame for lighting torches—*not* matches; never light torch from hot metal in any small space where gas may accumulate. And do not open acetylene valve more than one-eighth of a turn when lighting torch.

151. If torch burns inside blow pipe or flashes back, turn off oxygen valve at once. Then turn off acetylene valve and relight and adjust flame.

152. See that all valves are closed and pres-

sure released from hose and regulators when equipment is not in use.

153. Acetylene should not be used at pressures in excess of 15 pounds per square inch gauge.

154. Do not allow molten metal, slag or sparks to fall on cylinder, hose or apparatus.

155. Oxygen under pressure should never come in contact with oil or grease.

156. Since gas is under high pressure, do not jar cylinders or leave them near a hot furnace. Gas cylinders should be suitably supported in a rack or other device to prevent their being knocked over.

Acids

157. Where minor splashing is the only hazard, wear goggles, rubber boots, rubber apron and gloves.

158. Tuck glove gauntlets inside sleeves and keep trouser legs outside of boots.

159. When opening container be alert for sprays or splashes of acid.

160. To dilute, pour acids into water—*not* water into acid. Pour slowly and stir.

161. Clean up any spillage at once.

162. Do not place acid containers near hot pipes or equipment nor let them stand in the sun.

163. Flush off acid splashes at once with plenty of clean, running water.

For Further Information

164. *Industrial Data Sheets*, National Safety Council.

165. *Handbook of Accident Prevention*, 96 pp. National Safety Council.

166. *Ohio School Standards—A Guide for Industrial Art Shop Planning*, 40 pp., State Department of Education, Columbus, Ohio, 1949.

167. *Safety Education Data Sheets:* No. 14—Chemicals; No. 41—Home Work Shop; No. 46—Safety in the Woodshop; National Safety Council.

168. *Safety Education in the School Shop*, 68 pp., National Safety Council, 1948.

169. *Safety Instruction Cards*, National Safety Council. Index available.

170. *School Shop Safety Manual*, 240 pp., Board of Education, New York, N. Y., 1948.

171. *Shop Safety Education*, State Education Dept., 319 pp., Albany, N. Y. Distributed by Delmar Publishers, Inc., 1949.

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-60 Farm Mechanics Shop (Rev.), Safety in the
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-44 Fishing, Hook and Line
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In Memory of Price E. Clark

A silent prayer at the School and College Conference meeting honored the memory of Price E. Clark, who died in September.

Mr. Clark, formerly the educational consultant for the Accident Prevention Department of the Association of Casualty and Surety Companies, was remembered by his friends at the National Safety Congress.

Long active in safety education, Mr. Clark was a member of the executive committee of the School and College Conference and was a member of the executive committees of both the School and College Department and the driver education section. He also served on the National Committee on Films for Safety.

He is a former county superintendent of schools in West Virginia. He served four years in the West Virginia State Department of Education, where he was the first state director of safety and driver education. Mr. Clark was also a member of the National Education Association.

J. J. Griffin Dies In Chicago

James J. Griffin, 51, Chicago, Ill., an active leader in National Safety Council work, died on October 23.

Mr. Griffin was principal of Cregier Vocational High School since 1959. He previously had served 15 years as safety coordinator for the Chicago Board of Education.

One of the early members of the NSC safety education supervisors section, Mr. Griffin served on its executive committee and also on the Council's driver education section. He was vice president of the Chicago Teachers Union and a member of the Catholic Interracial Council.

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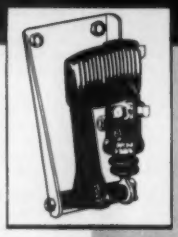

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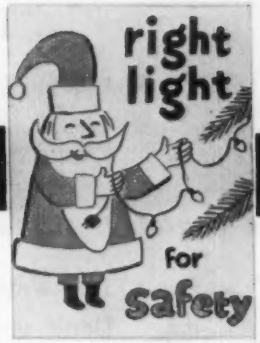


S-1939-A

Holiday Lights

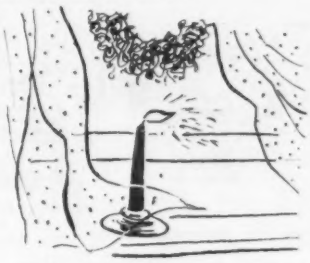
Soon it will be holiday time.
We will decorate our houses.
We will use many lights.

Many homes use candles for decorations.
They are very pretty.
But they can set fires.
How can we use candles safely?

Using Candles Safely

We should use electric candles. In our monthly picture, Santa Claus is using electric candles. They are safer.
We check the cord first. Why?
We put the electric candles away from decorations? Why?
How can we make sure they do not fall and break?

Write SAFE under the safe way to use an electric candle.
Write UNSAFE under the picture that is not safe.



Holiday Safety Ideas

It is time to set up the Christmas tree.
We will set it in _____. Tell why we do this.
We put decorations _____ _____ fireplaces and radiators.
We put our toys _____ after playing.
We put paper wrappings into the _____ _____.

Fill in the blanks:

waste basket
away
water
away from

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Prepared by James Mann, principal, Hubbard Woods School, Winnetka, Ill.; past general chairman, Elementary School Section, National Safety Council.

Time to Buy Gifts

It is time to go shopping.
It is time to buy gifts for Mother and Dad.
It is time to buy a gift for Sister.
It is time to buy a gift for Brother.
It is a very exciting time.

But watch out!
Don't get too excited.
You may have an accident.
That will surely spoil your fun.
What shall we watch for?

Watch out on the street

Wait for the _____.
Watch for turning _____.
Watch for _____ places.

Words to Use

cars
lights
slippery

Be careful in cars and buses

Get into cars from the _____ _____.
Wait till the bus _____ before you get up.
Don't walk in _____ of cars or buses.

Words to Use

front
curb side
stops

Be careful in stores

Don't crowd through _____.
Take your _____ on stairs.
Step _____ into the elevator.

Words to Use

back
turn
doors

Watch out at home

Don't _____ around the house.
Don't leave _____, _____,
_____ lying around.

Words to Use

rush
wrappings
boxes
toys

upper elementary

safety lesson

Holiday Lights

S-1939-A

It is December and the days are very short.
We turn on the lights in the morning.
We must have them on in the early evening.
Today most people have electric lights.
They are quite safe.
In pioneer days lights were not so safe.
Candles would set fires.
Lamps would tip over and burn.
Fireplaces would throw out sparks.
There are still dangers, especially when we "Light up for the Holidays."

Candles

Candles can cause fires, if:
- They are placed near curtains or draperies.
- They are placed near Christmas greens.
- They are near paper decorations.
- They burn down too low.

An *electric* candle is much safer.
- It will not catch fire.
- It will not overheat.
- It can be used over and over.
- Are there any dangers in an electric candle?

Tree Lights

Many people use strings of lights for decorations on trees, over doors and on windows.

They are very bright and gay. They are safe if:
- The cord is not frayed or broken.
- The sockets for the bulbs are in good repair.
- The cord is not strung over furniture.
- The cord is not placed under a rug.
- The cord for outdoor lights is waterproof.

What is the Santa Claus showing us in our December picture?

What is wrong with each of these pictures? What should be done?

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Prepared by James Mann, principal, Hubbard Woods School, Winnetka, Ill.; past general chairman, Elementary School Section, National Safety Council.

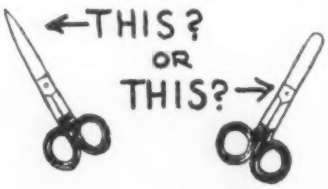
Shopping for Others

Is your shopping list finished?
What do you have for Baby Brother?
What about Baby Sister?
Do you know that some toys are not safe for young children?
Do you know that some materials are better for toys?

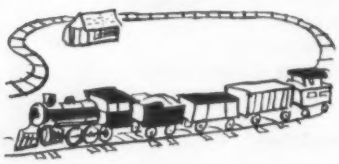
Many toys are painted.
Small children chew on them.
Paint with lead in it can be poisonous.
How can we know they are safe?
Look at the label. Ask the clerk.

Metal toys often have sharp edges.
They may cut or scratch a child.
Is there a better kind?
What is it?

Sister wants an electric iron.
Brother wants an electric train.
Will these be safe?
Can they plug them without getting a shock?
Will they remember to unplug them?



Sharp pointed toys are dangerous.
Little Brother wants a bow and arrow.
Little Sister needs new scissors.
Can we find some safe ones for them?



The holidays are over.
Everyone has new toys.
How shall we take care of them?

Helping Younger Children Stay Safe

(fill in blanks with words)

We show them how to put their toys _____.
We tell them why our Christmas tree is in _____.
We get the _____ _____ to put gift wrappings into.
We keep _____ decorations away from lights, radiators and fireplaces.

Words to use.

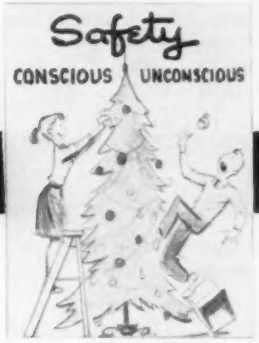
paper
waste basket
away
water

Tell how we all can be safe when we are shopping.

December 1960

junior high school

safety lesson



S-1940-A

Home Hazards

Be Alert For New Dangers

The National Safety Council has adopted a slogan, "Safety in the Sixties." The purpose of such a slogan is to impress upon people the necessity for constantly being alert for *new* dangers. In other words, as the visual aid supplement shows, be safety conscious—or unconscious. In the reading exercise below, you will see how new dangers suddenly appear and claim lives.

How to Read

Any good reader knows that before he reads, he should *preview* the material. The best way to preview is to use the technique of *skimming*. This means that you skim over the reading material rapidly—looking only for main ideas. A good way to accomplish this is to read the first and last sentences of each paragraph. These are usually *topic* and *transitional* sentences and will give you the main ideas.

After you have skimmed the article, then you should read it carefully for details as well as main ideas.

Reading Test

Directions: (1) Your teacher will give you 20 seconds to *skim* the article below. When time is called, answer the questions under Part I. (2) Your teacher will give you 90 seconds to *read* the article. When time is called, answer the questions under Part II. (This tests your comprehension at an approximate reading rate of 200 words per minute.)

Plastic Bag Deaths

Sixty-three babies were suffocated by plastic film bags during the period of 1 January to 24 July in 1959, according to a report by the U. S. Public Health Service.

It is impossible to know how many more would have died if parents hadn't been warned by one of the loudest safety alarms ever to arouse the country. As soon as the frightening truth about the plastic became known, the whole nation was in an uproar. The Society of the Plastics Industry launched a million dollar advertising campaign on how to use plastic film safely. One manufacturer provided warning tags to hang on cleaning packaged in film. Mothers in New York City staged a dramatic bag burning party. Some cleaners even stopped using plastic bags.

Added to the furor were the cries of legislators, "Let's ban the stuff!" In a dozen states and as many cities, laws on plastic bags were introduced. Only one city, Union City, N. J., carried out the threat to abolish the bags. The U. S. Congress also strove to clamp down on plastic deaths by introducing five bills.

The Society of the Plastics Industry told a hearing that "education, not legislation, is the answer to the situation."

The National Safety Council agrees that parent education is the best policy. The Council points out that it is not the plastic, but its misuse that causes deaths.

Here are the National Safety Council's three rules for safe use of the bags:

1. Never use a plastic bag as a makeshift cover in cribs, playpens, baby carriages or for mattresses or upholstery.
2. Never give a plastic bag to a child to play with. It is not a toy. It should be kept out of children's reach.

Published by the National Safety Council. Price $.28 each for 10 to 49 subscriptions; minimum order 10; lower prices for larger quantities; order by stock no. 461.01-3. Write the Council, 425 N. Michigan Ave., Chicago.

Prepared by Vincent McGuire, professor, Secondary Education, University of Florida, Gainesville, Florida.

3. Never keep a plastic bag after it has served its intended usefulness. Before disposing of it, tear it up or tie it in a knot.

Part I—Skimming (20 seconds)

1. How were babies killed by plastic bags?

2. Was there much reaction to the deaths by the general public?

3. What was the first reaction of legislators?

4. What solution did The Society of the Plastics Industry propose?

5. How many rules did the National Safety Council propose to overcome the plastic bag hazard?

Part II—Reading (90 seconds)

1. Sixty-three babies died from plastic bag misuse during how many (approximate) months?

2. How did one manufacturer of plastics attempt to solve the problem?

3. How did some clothes cleaners attempt to solve the problem?

4. How many cities actually passed laws to abolish plastic bags?

5. What are the three rules proposed by the National Safety Council for safe use of the bags?

A Dangerous Location

If you were told that nearly 5,500 children under 15 years of age die each year as a result of accidents in a certain location, could you guess the location? Perhaps further information will help you. Nearly 30 per cent of the 5,500 are killed by automobiles. Next in line is drowning, accounting for 14 per cent of the deaths. More than half the deaths are due to a broad class of accidents, including fire, suffocation, falls, firearms and poisons.

Where, do you think, do these accidents occur—on the highway, at the beach or lake, or in the woods?

According to the Children's Bureau of the U. S. Department of Health, Education and Welfare, these children die—as described above—in *home* accidents.

The same organization points out that home hazards are even more apparent when non-fatal accidents are figured.

The National Safety Council, computing the number of home accident fatalities, puts the total (for all ages) at more than 27,000 per year. The number of injuries due to home accidents comes to more than 4,000,000 each year.

What can you do about it?

A Home Checklist

Directions: (1) List at least *three* safety rules for each of the following. (2) After all students are finished, have a board recorder make a complete list. (3) Ditto the "master" list and give each student a copy. (4) After a home check, have a class discussion on preventive steps taken by each student.

1. How to make Christmas trees and decorations safe.
2. How to eliminate falls in the home.
3. How to make the fireplaces and the heating apparatus safe.
4. How to buy and store toys safely.
5. How to use and store dangerous medicines and poisons safely.
6. How to store firearms and ammunition safely.

Answers: (There are many others)

(1) Place Christmas tree in a bucket of wet sand; dispose of tree shortly after Christmas; don't use candles for decorations.

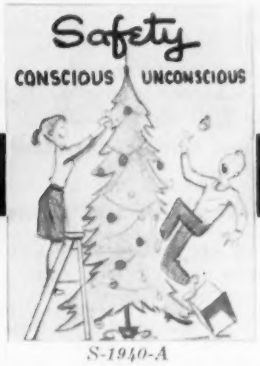
(2) Use step ladders, not boxes to reach high; get non-skid rugs; clean up spilled liquids immediately.

(3) Clean flues and chimneys; don't use kerosene to start fires in fireplace; use a fireplace screen.

(4) Look for Underwriters Label on toys; don't get electric toys for small children; provide a storage place for toys.

(5) Label all medicines; put poisons out of reach of tots; don't take medicine in the dark where you can't read the label.

(6) Place guns in a locked cabinet; store ammunition in a cool, dry place behind locked doors; clean all guns before storing.



S-1940-A

December 1960

senior high school

safety lesson

Science and Safety

When you think of safety in the home and safety during the Christmas holidays, chances are that you don't think of science. Science, however, plays a large part in any safety program even in the situation shown in the visual aid supplement above. Here are a few examples of ways in which a lack of knowledge of science can cause trouble.

The little black boxes that you plug in at home "to purify the air," are dangerous. They are currently being sold by retail stores. Actually they are ozone generators and present hazards. A concentration of ozone strong enough to kill airborne bacteria is dangerous to humans. It can cause pulmonary edema—an abnormal accumulation of fluid in the lungs.

The American Medical Association's Committee on Toxicology reports a growing problem. Thirty children died from ferrous sulphate poisoning between 1949 and 1956. During a recent two and a half year period, 35 similar child poisonings were reported in the New York City area. This problem stems from the increasing use of iron tablets by the general public. While the use of iron tablets containing ferrous sulphate is beneficial to adults with an iron deficiency, children can easily suffer from ferrous sulphate poisoning if they eat too many tablets.

The iron tablets are especially dangerous because they carry no warning of their hazards to children.

Mercury, usually not considered a household item, has arisen as a killer in the home. A mother recently mixed mercury, turpentine and aluminum paint which she applied to a small space heater. Then she lighted the heater to dry the bright surface.

For 16 hours she and her three children remained in the house—long enough to be severely poisoned. The mother survived, but the three children died from acute chemical pneumonitis produced by the mercury vapor.

Know and Use Science

In all of the foregoing incidents, a knowledge of science might have prevented many deaths and injuries. Just as important, however, is the *application* of science knowledge. Too often students feel they have *learned* something when they have only *memorized* it. *Learning* is when you understand something *and apply* your understanding to help solve everyday problems.

You have studied and are studying science. In the test that follows, see how much knowledge you have gained and how well you can apply that knowledge to everyday situations around the home.

Science Test

1. Which of the following common plants usually grown around the house are poisonous and can be dangerous if parts of them (or, in some cases, *any* part) are chewed? (Underline the poisonous ones): four o'clock, narcissus, elephant ear, pinks, iris, bittersweet, tulip, mountain laurel, rhododendron, lily-of-the-valley, oleander, ivy, foxglove, bluebonnets.

2. In the question above, which ones can be *fatal* if taken in large enough doses by a child?_____

3. Is it possible to get a shock from a TV set *after* you unplug the electric cord

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Prepared by Vincent McGuire, professor, Secondary Education, University of Florida, Gainesville, Florida.

and the antenna wire? (Check one) Yes___ No___. Why? _____

4. You will be safe from any explosion if when using a highly volatile liquid for cleaning you make certain that there is no flame present, that there are no electric sockets or wires present, and that there is no electric battery present. (Check one) Yes___ No___. Why? _____

5. The safest way to light an oven is to turn on the gas slowly, then light a match immediately and hold it in the oven. (Check one) Yes___ No___. Why? _____

6. If soda pop bottles are shaken quite a bit in transferring them from the car into the warm kitchen or pantry, is there any danger involved? (Check one) Yes___ No___. Why? _____

7. If you are using some cleaning acid and some accidentally gets on your arm, you should (underline the correct answer) A. Rub it off with a wet rag, B. Put your arm under the running water from a faucet, C. Immerse your arm in a basin or bucket of water. Why? _____

8. The *most important* reason for not using a multiple plug-in socket—two, three, or more plugs in the same socket—is (choose the best answer) A. The socket may be defective and not work, B. The extra electric load may cause a fuse to blow, C. The extra load may cause a short circuit.

Answers:

1—all of them;

2—all of them (and there are more too!);

3—yes, the TV set will contain electricity for several minutes after it is unplugged;

4—no, because a spark of static electricity, which could be caused by friction, can set off the explosion. *Don't use* highly volatile liquids;

5—no, always light the match *first*, hold it over the gas opening, then turn on the gas slowly;

6—yes, the carbonated gas may expand and cause the bottles to explode hurling pieces of glass in all directions;

7—B, because running water will wash the acid off whereas a rag or bucket of water will only dilute it at best;

8—C, a short circuit can start a fire.

How People Were Killed at Home

Listed below are the fatality figures for home accidents during the year 1958.

	Death total	Population Death Rate*
All types	27,000	15.6
Falls	11,800	6.8
Fire burns, and other deaths associated with fire	5,700	3.3
Poisons, solid or liquid	1,200	0.7
Firearms	1,150	0.7
Poison gases	950	0.5
Other home accidents	6,200	2.6

*Deaths per 100,000 population

Questions

1. What total population figure (to the nearest million) was used in the above computations?

2. The above table shows deaths. Which of the following figures, do you think, is the correct one for *injuries* in the home during 1958? (A) 2,000,000 (B) 4,000,000, (C) 5,000,000.

3. The cost of home accidents in 1958, figured on the basis of lost wages, medical expenses and insurance, was (A) $2,000,000, (B) $6,000,000, (C) $12,000,000, (D) 900 million dollars.

4. The leading cause of death in home accidents, per age group, is as follows: (Match the correct items in each column.)

Age Group	*Cause*
(1) under one year	(A) falls
(2) one through 64 yrs.	(B) mechanical suffocation
(3) 65 years & over	(C) fire burns

5. Why must needless deaths and injuries occur each year in the home?

Answers: 1—173 million (divide the total by the rate and multiply by 100,000.) 2—B; 3—D; 4—1—B, 2—C, 3—A; 5—They don't have to occur.

News of Research

An Investigation of Adolescent Attitudes Toward Safety, by Rita E. Bergman, Doctoral thesis, Indiana University, Bloomington, 1959.

One of the tasks of the safety educator has been the teaching of proper attitudes. Because there has been little knowledge about safety attitude formation and change, the educator has had difficulty in promoting proper attitudes.

The problem of this investigation was to determine safety attitudes and find out their relationship to accident behavior, health and safety background, certain specific experiences and interests.

A group of 204 tenth, eleventh, and twelfth grade students in health education from the Indianapolis Public Schools were subjects in the investigation.

The Sentence Completion Blank and the Accident Questionnaire were used to secure information relevant to adolescent safety attitudes and their relationship to the selected variables.

The number and types of adolescent fatal accidents, the everyday environment of the adolescent, and the need for respect for safety organization, laws and regulations provided the areas of safety attitudes for inclusion in the Sentence Completion Blank. The 15 areas of safety attitudes assessed were: flying, automobiles, stairways, policemen, fire safety organization, swimming, bicycles, boats, first aid, guns, machines, use of the highway, fire, trains and pedestrians.

Specific item construction was based on the technique employed by Sachs and Levy. In determining the true attitude toward the issue under investigation, four item stems were placed in the Sentence Completion Blank for each of the 15 areas of safety attitudes. An attempt was made to assess general and specific attitudes toward the issue under investigation. The completed sentences were scaled according to the technique developed by Rotter.

Three independent judges and the investigator rated the sentences of 10 students to determine interscorer agreement. The split-half method of reliability corrected with the Spearman-Brown prophecy formula was employed to determine reliability. The Chi square test was used to determine the relationship between safety attitudes and selected variables.

The conclusions from the investigation were: no significant relationships were found between safety attitudes and age, sex, accident behavior, health and safety background and sports participation. A significant relationship was found between safety attitudes and membership in scouting. Significant relationships were found between certain specific safety attitudes and experiences and interests. Adolescents' safety attitudes as indicated by the Sentence Completion Blank were neither highly positive nor highly negative. Adolescents did not have well-defined safety attitudes and did not have a large number of experiences and interests which may tend to enforce safety attitudes.

The Sentence Completion Blank proved to indicate relationships between safety attitudes and certain experiences and interests. A reliability of .776 revealed that the instrument did assess safety attitudes●

The Relationship of Scholastic Achievement to Traffic Citations in the Seattle Public Schools, Mark Matthias Knoll.

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Education, University of Washington, 1959.

1. The data in this study while not extensive enough to be conclusive showed the student with the lowest gradepoint average to be the greatest offender in only one aspect of the problem: the number of violations per citation.

2. The data also showed the student with the highest grade-point average to be the leader in the number of points per violation.

3. The group with grade-point average from 2.50 to 2.99 had the best over-all record, while the group with a grade-point average of 1.50 to 1.99 had the poorest overall record.

4. The study showed that all the cars stolen were stolen by students with a grade-point average of 2.00 or below. This group also showed a greater percentage of no-license drivers and loud mufflers. It is believed this indicates a need for recognition greater than that shown in other groups and that the economic standard may have been of greater influence in this country.

5. The data showed that each group studied had a part in leading the field in one phase or another. While the lowest grade-point average group led in the number of violations per citation, it was balanced by the highest grade-point average group being the leader in points per violation. This showed that the evidence of the data presented tends to agree with the assumption that there is little relationship between scholastic ability and traffic violations●

Current Research in Childhood Accidents, Edward A. Suchman and Alfred L. Scherzer, Association for the Aid of Crippled Children, 345 East 46th St., New York 17, N. Y. 1960. 56pp. No charge.

The first chapter of "Some Conceptual Approaches to the Accident Phenomenon," brings together the best thought on what accidents are made up of and how to approach their prevention. Writing from the point of view of a basis for research, the chapter is equally important to the teacher.

Chapter two summarizes studies on the extent and significance of the problem pointing out areas for which we have little or no information. This, too, has values for the consumer, as well as the producer, of research.

The next three chapters deal with the "Evaluation of Current Data and Theory," "Methodological Approaches to the Study of Accidents," and "Specific Areas of Needed Research." These chapters are invaluable for the research worker and are of lesser value to the layman, although the last chapter performs a useful service to those who may think of accident prevention in terms of "being careful."

This pamphlet has the potential for an important contribution to accident prevention. It is to be hoped that it will be widely and thoughtfully read and acted upon●

Vivian Weedon, staff representative
Elementary School Section, NSC.

Editorial——

Are We in a Safety Slump?

DECEMBER finds people taking stock to see how they stand. Companies total their assets and liabilities; families tally income against expenditures—everyone's involved in some type of inventory.

This year launched the sensational sixties; "safety in the sixties" we said and we believed it. But has there been? Let's take a safety education inventory.

We might use the National Safety Congress as a basis, or sampling, for our inventory. At the School and College sessions, educators told what their schools are doing in safety education. Old ideas and methods were reemphasized; new ones exchanged. Everyone sounded very busy in safety activities. But the student accident picture over the country hasn't changed much. And some of us wondered if we're very busy doing ineffectual things. In fact, this inventory gives us the feeling that schools are in safety slump.

One astute delegate put it well, "We act as though we've solved all the problems and have stopped questioning." Many problems obviously aren't solved, yet a superficial look into the Congress sessions makes everything look rosy.

We're going to take a closer look here. Some problems did come out at the Congress—but only incidentally. We believe they may be the most important things said. For example, Mrs. Orval Harrison, PTA leader from Oklahoma City, said a survey (on how much safety education goes home with the child) showed a definite interest lag occurring during the junior and senior high years. This problem was practically disregarded, but James Mann, Winnetka, Ill., did have a chance to suggest that a teacher's emotional approach to the handling of material could determine "how much sinks in." And a similar question came out at a later date on how the process of essential repetition can be made interesting and effective. We heard no discussion on this point.

In anything, and especially teaching, we like to know our success. But Leon Brody, Center for Safety Education, warned of the pitfalls of statistics, and said there's no test for measuring attitudes and motivation. We can measure knowledge of rules—but do we want to? Brody cautioned, "Don't go too far with testing, lest it interfere with the real task—teaching. A competent educator's judgment is the major measure." Norman Key, National Commission on Safety Education, agreed that overt behavior as opposed to the pencil approach truly reflects safety learning.

Rather than testing the children, perhaps we ought to test ourselves. John McGill, University of Illinois, asked whether our classroom safety activities give children an opportunity to analyze, to do something about their own safety and to create improvements?

Given a hypothetic school situation, elementary educators went into "workshops" to figure out ways to set up a safety education program in this poorly organized school. In a nut shell, the principal was lax, teachers hostile, and each felt the other responsible for carrying out the "law" requiring safety teachings. We wondered how hypothetical this was. The workshops came up with such universal needs as a bike safety program, fire drills and safety committees. Some delegates felt a crash program was the answer and many wanted to change the circumstances —"fire the principal," they said, only half kidding. Only a few asked: how can communications between staff and administration be improved? Should the staff work with students to set up a safety program? Is the only purpose of safety education to abide by a state law?

Everyone talked about the driver education problem. Some were content with the answer "legislation for funds." But most realized this was only the final battle in a long line of scrimmages. Experts from national organizations said the conflicts must be settled at the grass roots, but they didn't say how. Such suggestions as "inform the public," "set up committees," and "get out fact sheets" were good as far as they went. One delegate did ask why we don't answer criticisms of driver education published by the local press.

These are the important questions that were asked and too quickly disregarded. There could have been many others. What to teach and how to teach. How can we perceive students' difficulties which could lead to accidents? How can we help students to understand their own actions and limitations? How can safety be made a way of life, not just rules?

When about 19,000 school age people died last year from accidents, can we be confident of our present safety education activities? Or ought we to start some personal inventories and perhaps ask more questions about what we're doing—and about ourselves? It may hurt, but it's bound to help●

nnm

Coming Features Next Month

▶ Want to set up a driver education program but can't seem to fit it into your busy curriculum? After surveying schools, the author tells various methods which have been found satisfactory.

▶ Spotlight on the members of the School and College Conference.

▶ From the horse's mouth—the chairman of the ski safety division of the National Ski Patrol tells how to get more enjoyment out of skiing.

▶ In the science series article, the author takes up some scientific principles which are usually not developed in common references to science and safety.

▶ Report from a special commission on safety and driver education set up by the Texas State Board of Education develops and defines principles to guide schools in improving their safety education curriculum.

▶ Industry challenges schools to prepare their graduates for safe working and living and suggests ways for schools and industries to cooperate.

▶ Urban redevelopment is a familiar term today in most communities. The special problems, special precautions and special learning experiences needed are discussed in an article on safety in a changing community.

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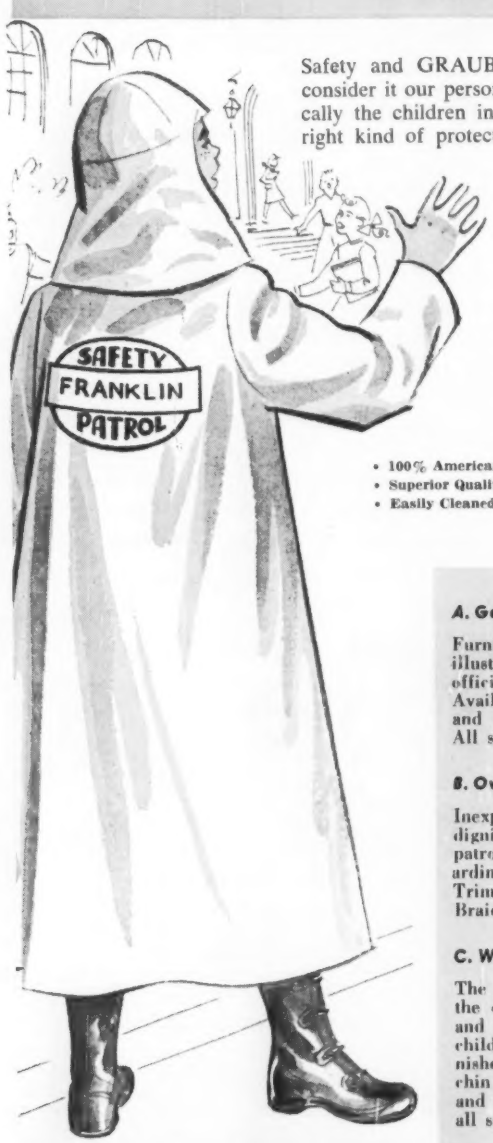

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